



SATURDAY, NOVEMBER 6, 1875.

Overhead Traveling Crane for Machine Shops.

One great source of expense of doing work in machine shops is the handling the heavy parts of machinery. Everything which facilitates what might be called the mobility of such parts reduces the cost of their manufacture.

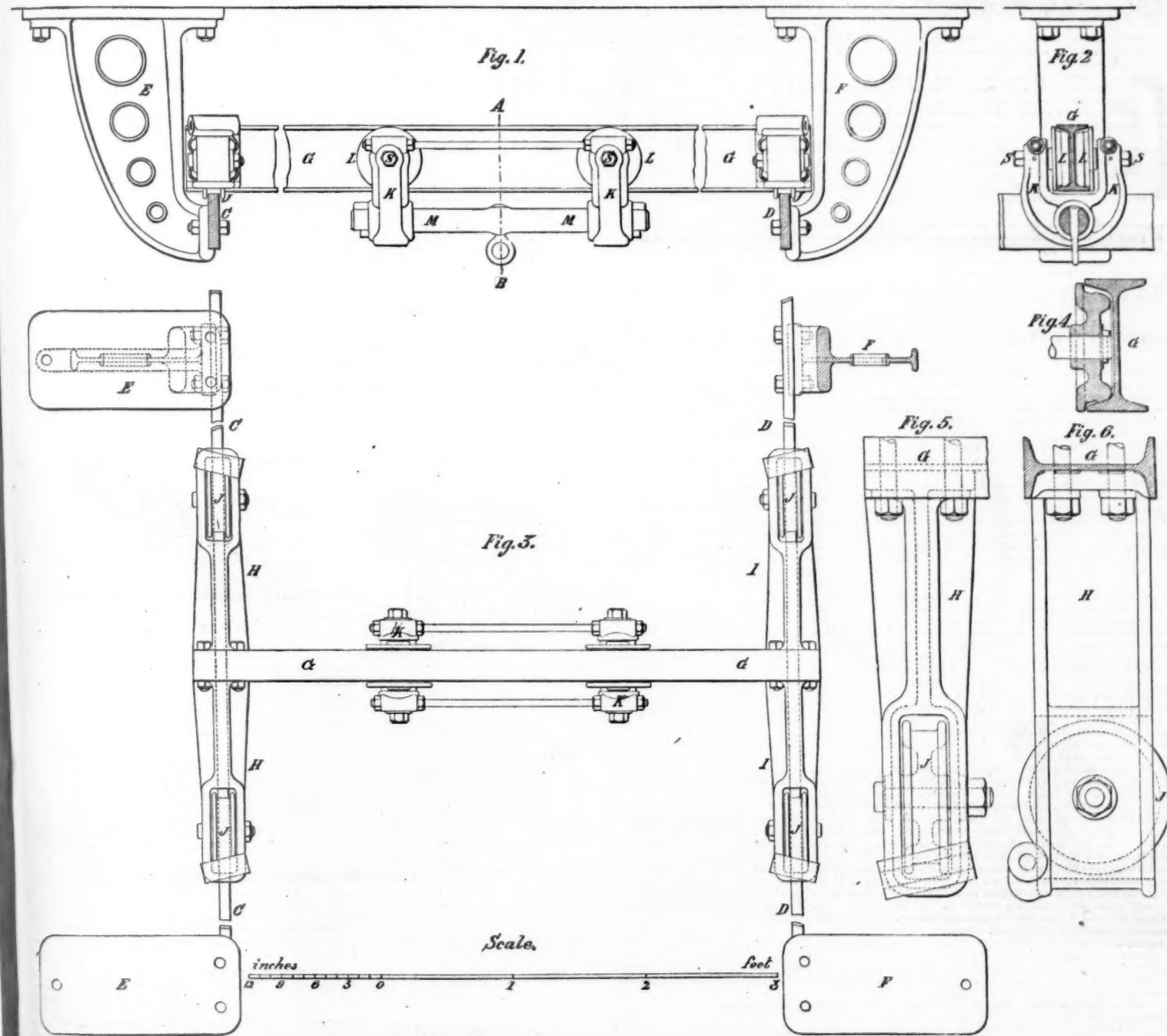
The traveling crane which is represented by our engraving is intended for this purpose. It was designed by Mr. Frank D. Child, Superintendent of the Hinkley Locomotive Works, for the new shop which that company is now occupying. It is so skillfully designed that we believe our readers will agree with us in regarding it as an example of mechanical engineering approximating fine art.

the form of which inclines outward, so that in order to fit the surface on which they must run the wheels must be made conical. As a conical wheel will not roll in a straight line, but in a circle, and in order to bring the bearing as near the web of the beam as possible, the treads of the wheels are grooved next the flange so that the bearing is close up to the web, as shown in fig. 4. To the U-shaped castings a cross-bar, *M M*, fig. 1, is attached, with a ring, *B*, in the center to which a chain and differential pulleys are attached. The figures on the drawing will show the dimensions of the arrangement, which we can commend as a very convenient one for the purpose for which it is intended, which is to move heavy objects in the shop for which it was designed.

In this connection it is interesting to note that during the "railroad jubilee" on the 27th of September last, at the exhibition of locomotives, etc., in the Darlington shops of the Northwestern Railway, according to *The Engineer's* report, a 35-ton freight locomotive was kept in the slings under the fine traveling crane driven by a fly rope in one of the sections of the shop, and carried backwards and forwards, wheels and all, dur-

value of those concerns, he could only come to the conclusion that, in truth, a very large sum of money had been squandered away, improperly spent, discounted, given away, and stolen.

He knew there were those who said: "You have been to America, and have written reports, but what have you done?" He would tell them what had been done, after a hard struggle in conjunction with Mr. Morris, without whom nothing could have been done. He had secured for the suffering bondholders of the Erie the control of their own affairs, if they liked to control them, and he had obtained what had never been obtained before—viz., the approval of the Judge of the Supreme Court of the State of New York that they should control their own affairs. They had, moreover, secured the co-operation of the court in a way which had led to the law being fairly laid down affecting trustees and trusts. They had secured the means of honest and capable management with the co-operation of the committee. Now, the question was whether they, as men of business and sensible men, who respected the rights and feelings of each other apart from their own—whether they would unite in the organization of a plan whereby they would be enabled to make this concern financially sound? He knew there were many separate interests; they must try to forget them and endeavor to reconcile them, and he would tell them everything that had been done would be imperiled or lost unless they showed to the people on the other side of the Atlantic that they were not merely



OVERHEAD TRAVELING CRANE, DESIGNED FOR THE HINKLEY LOCOMOTIVE WORKS,

By Mr. Frank D. Child, Superintendent.

Fig. 1 may be called an end view; fig. 2 a section on the line *A B* of fig. 1; fig. 3 a plan; and figs. 4, 5 and 6, details of parts on an enlarged scale.

What may be termed the permanent way of the structure consists of two flat wrought-iron bars, *C C* and *D D*, 5x1 in. in section. These are supported on very graceful cast-iron hangers or brackets, *E E* and *F F*. On the bars or rails a carriage or beam, *G G*, which consists of a 6 in. wrought-iron beam, *G G*, with two cast-iron arms, *H H* and *I I*, at each end. These arms are bolted to the wrought-iron beam, and each one has a double-flanged wheel, *J*, at the outer end, 6 in. in diameter. These wheels run on the rails described and give the crane its longitudinal movement.

The transverse motion is given by another carriage, which runs on the lower flanges of the wrought-iron beam. This carriage is suspended from the beam by two U-shaped castings, *K K*, the form of which is shown in fig. 2. To each of the upper ends of the arms of these castings a wheel, *L L*, is attached by a strap, *s*, which forms the axle for the wheel. These wheels, as already stated, run on the lower flange of the beam,

ing the exhibition, "to the immense admiration of crowds of visitors."

Sir Edward Watkin's Speech on Erie Railway Affairs.

London papers of Oct. 23 have reports of the meeting of stock and bondholders of the Erie Railway in that city, Oct. 20, at which speeches were made by Sir Edward Watkin and Mr. John Morris, an abstract of which follows:

Sir Edward said that since he first went over the Erie, in 1851, he could not remember, great as financial misfortunes had been, gross as financial irregularities had been, any undertaking which had existed during the whole of that period which had caused so much loss to English holders of bonds and stocks, and had brought so much shame and disgrace on the United States, as the Erie railroad, and that even blacker affair, the Atlantic & Great Western; and when he remembered that since 1867 the nominal capital of the Erie had been augmented from under \$50,000,000 to \$130,000,000—that the capital of the Atlantic & Great Western, which was not to exceed \$60,000,000, had been augmented considerably above \$100,000,000; and when he believed, as he did believe, that only a small part of that large increase of capital was employed in improving the effective

men of business, but a united party, and, being united, were determined not to submit to the mismanagement and robbery which had disgraced the history of the undertaking. He would have liked very much to have read the resolutions which would be submitted, and to have left the discussion entirely in the hands of the meeting; but there were some matters of explanation which could hardly be included in a report which some might be anxious should be given. First, let him ask what was their object? Their object was to give back to every bondholder his capital, and leave a reasonable hope of dividend to the preference and ordinary stockholders. The state of matters was all in a nutshell. They had, in the first place, a claim against them of one million dollars a year for rent charges—he was giving round figures—they had a charge of four million dollars per annum for bond interest; they were earning four million dollars a year; therefore, there was a deficiency of one million dollars. The question was, how they could, either by reducing these charges or increasing the net revenue, produce an equilibrium. He had shown them in his report that if this line could be worked at 65 per cent., every bondholder would be paid his interest, and it was a question which experience alone could solve, whether Mr. Jewett could work the line at that rate, and he (the chairman) would say, though he believed in Mr. Jewett they had a capable and honest manager, yet if these results were not achieved by him he would be the first

to say they must have a change. There was, in addition to what he had already stated, a floating debt of the company of \$800,000. There had been a good deal of misconception about that debt. They had seen the statements published by the receiver, and because they found that the particular debt which Mr. Jewett took over was very much reduced, they assumed that the whole debt was reduced; whereas, in the current working Mr. Jewett had had to incur other debts; therefore the reduction was not so great as some imagined from the cash statements which had been published. If they had a deficiency of \$250,000 a year on the fixed charges, in two or three years it could be overcome by increased earnings and reduced expenses. The question of having to pay off \$300,000 of floating debt would be a very simple one. He had no doubt, if he thought it discreet, he could get the \$800,000 and pay off the debt; but he would tell them, on the best consideration of the matter, he did not think it discreet, and as far as he was concerned, he would not recommend, either by issuing fresh bonds or by borrowing money in the market, the sending out to America another shilling. Until he saw the dawning of hope of better railway administration, and the diffusion of common honesty throughout the country—and until that dawning became more perfect day—he would not be a party to sending out any more money to tinker up American railways. There was another matter, and in that laid mainly the difficulty of coming to any decision that day. They saw in his report that he proposed that Mr. Jewett should send them, with the accounts that should arrive at the end of November or beginning of December, a complete balance-sheet. The Erie undertaking was not so simple a matter as it looked. It was not simply a railroad. They had got ferries, steamboats, manufacturing, and surplus lands. They held the bonds of several other undertakings, some of which were not worth the paper they were written on, while others would realize considerable value; and therefore before he committed himself to any financial scheme, he wanted to have these things valued, so as to see what available property there was, and what they had to rely upon for paying off the liabilities and dealing with the working of the concern for the future. There was the adage, "The more haste the less speed," and they would agree that before they had that account—and he proposed, with their consent, to have it independently audited on the spot—before they had that they would hardly be in a position to decide anything but general principles in this serious and important matter. Now, part of the available assets of the company consisted of certain claims. He might mention one or two. They had a claim against the London Banking Association. It was far to that respectable establishment to say that most questions have two sides, and probably they could put in a fair answer to the demand. He expressed no opinion. If the people in New York were right the company had a considerable claim; if they were wrong it would be the duty of the managers of the railway honestly to admit it; but if right to insist upon those rights being discharged. [A voice—"What is the amount?"] It was a large sum, and he could not say more. Another claim was that in respect of Messrs. Bischoffsheim, which again was entirely dependent upon the right or the wrong of the matter, the legality or illegality of what was called the "rescue." Then, again, there was an unsettled account of vast proportions with Mr. James McHenry. He had received a letter from that gentleman, and in proper order would allude to it. Then there was what was called the Vanderbilt asset. The facts were these: In Jay Gould's time Commodore Vanderbilt conceived the idea of doing a great stroke of business by what was called capturing the Erie. Vanderbilt went into the market and bought what was called the majority of the stock—he thought he did so; but Jay Gould, who was as sharp as Vanderbilt, immediately issued convertible bonds, and as soon as the stamp was put upon them by a resolution of the board they were converted into shares; therefore, when Vanderbilt came down with the money to take up the stock and expected to find that what he had bought could not be delivered, he found a great quantity of beautiful new paper with which he was fed to more than his heart's content. Thereupon Vanderbilt commenced an action against Jay Gould, who appeared to be so much frightened about the matter that he made a compromise, and it was under that compromise that 3½ million dollars were taken out of the till and paid to Vanderbilt, who, in return, handed back the quantity of stock he had bought at 70. Since then proceedings had been instituted against Mr. Vanderbilt by the company, and Mr. Vanderbilt had been under what they called "the stand" in the witness box for two or three days, and the decision had been given in favor of the company by two to one of the judges of the Supreme Court of New York. Mr. Vanderbilt had appealed; but as he was advised, the appeal could only be on a question of law, and Judge Donohue had laid it down that these moneys were funds of the company which Jay Gould was paying over, that he had no right to pay them, and that Mr. Vanderbilt knew that they were the funds of the company. If this were the law, Mr. Vanderbilt could only go back to the question of quantum; he could not go back to the question of damages, and he would have to hand over three millions and a half of dollars, receiving, if he wished it, an equivalent in stock at the day's prices. He should also tell them that there were some uncompleted transactions of large amount in coal mines. In Mr. Watson's time a large amount was laid out in coal mines and machinery, and there was a large quantity of surplus property. As far as he could express an opinion he thought there ought to be a considerable surplus when all these things were wound up. Of course a great deal would depend on the care and prudence exercised in completing these transactions, and something might also depend on the state of the market for real estate in America. With regard to coal lands, in England of course it looked very strange that the railway company should be proprietors of coal mines on a large scale. The Great Western owned coal pits, but in England railway companies generally did not possess that species of property. In America, however, where the railway intersected a coal district, it was not unusual for the company to become owners of coal mines. In his opinion a great deal too much had been given for this property, and he did not know but that that would come out in time—[Cheers.] Yes; and it should come out. Some of it was away from the railway, and to bring coal on the main line it would be necessary to construct branches. It had been suggested that an arrangement should be come to by which the coal property should be vested in another company, and that this company should receive back the amount it had embarked in it. He had spoken of his having with others undertaken the management of the Metropolitan Railway. When they did so, they determined on having the floor swept clean, and they directed an audit of the capital account from the beginning; and he might tell them that though that concern was not dishonestly managed they had recovered the cost of the audit two or three times over. But depend upon it, they had a great deal more to recover from the Erie. He believed they would recover an amount far greater than he should at that moment like to speculate upon. But one thing he had advised the committee, and he advised them now, and that was, to support him in insisting that at whatever cost, and however long it might require, the capital account should be submitted to audit; and that if any malfeasance were discovered, two or three curious and interesting facts in relation to this matter to which he would advert. He found that in 1865 the total capital of the company was 47 million dollars. In 1874 it was 141 million dollars. In 1867 there were 459 miles of main line, 314 of branches, and 379 of double track sidings, making a

total of 1,152 miles of track. In 1874 there were 459 miles of main line—that was to say, no increase; 500 miles of branches, an increase of 186 miles, and 195 miles increase of double track, making a total increase of 381 miles, or 35 per cent.; whereas the increase in the capital was 160 per cent. He had been asked how it was that Mr. Jewett reported a year or eighteen months ago that the concern was out of debt, when there was a debt of \$800,000. That was partly owing to certain things which were due not being inserted in the accounts; but the main cause of their being placed in that condition was that Mr. Watson had declared what he did not hesitate to call fraudulent dividends. [Hear, hear.] Mr. Watson paid dividends when the revenue was \$250,000 a year short of what was necessary to meet engagements. On what ground he did it, he (Sir Edward Watkin) could not say; but he was informed that he sent a circular to persons who had supplied stores asking them to make a valuation of them, and took credit for them as revenue, so as to furnish a dividend. Of course he could not do that except at the expense of those who came after him. In answer to those who were trying to make that concern appear worth less than it really was, he wished to refer to a statement that had been prepared for him by Mr. Grant. That statement put the present capital of the Erie Railway at \$141,000,000, or about \$28,000,000 sterling. The market price of that was now \$8,500,000, or about \$8,100 per mile, the value of the line being thus reduced to a less sum than it could be reconstructed for. Although, therefore, in one point of view the state of the concern might appear hopeless, yet in another it was hopeful, there being evidently much room for improvement. He had alluded to the Erie Railway in connection with the Atlantic & Great Western. One reason why he did so was that in his opinion the two lines were, for all purposes of traffic, one, and ought to remain so; and so far as he could control the matter they would. [Cheers.] If there were any questions between the two companies, let them be discussed in a friendly spirit. There ought to be the closest union between them on fair and honorable terms, and their resources and equipments might be made conducive to their mutual prosperity. He had there a letter from Mr. James McHenry. He (Sir E. Watkin) was in the habit of calling a spade a spade, and he would say that if Mr. McHenry had never been born [laughter], or if there had never been an Atlantic & Great Western Railway, there would never have been all this trouble in connection with the Erie Railway. Almost all their difficulties had been produced by attempts to saddle upon the Erie Railway unfair responsibility, and, on the old principle, *divide et impera*, constantly keeping alive contests between them, the object being to avoid that thorough inquiry and rummaging which there ought to have been from the beginning, and which, if any reliance was to be placed on Mr. Bates, would now be carried out to the utmost extent. [Cheers.] If the Erie Railway and the Atlantic & Great Western Railway were not married, they were living together, and therefore they had better go through the ceremony of marriage and live together henceforth like honest people. [Laughter.] At the same time he wished it to be understood that he had no intention of interfering with the affairs of the Atlantic & Great Western Company. A feeling had got abroad that he had such an intention, but there was no foundation for it. Before reading Mr. McHenry's letter, he wished to allude to a report made by a very able railway man, of whom he desired to speak with the greatest respect, but who was certainly in that case egregiously mistaken; he meant the report made by Mr. Forbes with regard to the Atlantic & Great Western Railway. The present value of the securities of that line was estimated by Mr. Bates at £2,180,000. In that report the gross annual revenue of the line was estimated at \$10,015,000, and Mr. Forbes said that after all deductions there would remain a balance of \$3,573,000 in favor of the holders of ordinary stock, which was equal to a dividend of 11½ per cent. [Laughter.] Sir Edward then read a letter recently addressed by Mr. McHenry to Messrs. Ashurst & Morris, in which he protested against charges repeated by innuendo by Mr. Jewett that he was a debtor to the company, and that the issue of the second-mortgage bonds was illegal; the writer adding that the great question was what the board of the Erie Railway had done with the \$8,000,000 raised since 1872. As regarded the latter question (continued Sir Edward) Mr. McHenry ought to have been there to afford the information himself. He would, however, endeavor to show what became of the \$8,000,000. It would be remembered that there was an Erie Committee in London, consisting of Mr. Gilson Homan, Mr. Green, Mr. Cryder, and Mr. McHenry—[Mr. Homan—"No, not Mr. McHenry."] Well then he withdrew that name. That committee administered the affairs of the concern, Mr. Watson being the head in America; and a large amount of inspiration coming from that source, \$2,490,000 were remitted to America; and there was paid in London, including the exchanges, \$3,577,000. It would be unjust to Mr. McHenry not to add that he said that he could satisfactorily account for the balance of \$2,000,000. There were charges for the construction of certain branches, stocks purchased, payments on account, etc.; whether they were right or wrong he did not know. Mr. McHenry said that he believed Mr. Jewett was an honest and honorable man, and that it was on that account that he was selected to take the helm in place of Colonel Scott. He (the chairman) believed Mr. Jewett to be an honest and able man, and until he saw something which tended to shake that opinion, he would continue his confidence in him. It was due to Mr. Jewett, and to all parties concerned, that he should come to this country, and then Mr. McHenry would be able to meet him and to vindicate himself—[Hear, hear.] Having gone to America with the greatest possible prejudice against Mr. Jewett, and believing that there was one transaction which greatly required explanation, he arrived at the conclusion that Mr. Jewett was an honest as well as a capable man—[Hear, hear.] He then read a telegram which Mr. Jewett had sent on the 26th of May last to Messrs. McCulloch & Co., for publication, in reference to the payment of the interest due on the 1st of June on the second consolidated bonds, and said he believed if the telegram had been published on the 27th of May there would not have been the disastrous fall in the stocks and bonds which occurred—[Hear, hear, and cheers.] At the head of the management of the Erie railway stood, at one time, Mr. Jay Gould, and he would advise them all to read what was said respecting his conduct in the report made to the Congress of the United States with regard to the gold frauds of 1869. Those frauds were there spoken of as "disfiguring New York," and it was remarked that after the discovery of them, Mr. Gould escaped from the fury of the people by "taking refuge in his old stronghold, the office of the Erie railway."—[Laughter.] Mr. Gould was a very bad man, and Mr. Fisk was shot—[Laughter.] After that came what was called "the rescue." He must give the meeting a few facts connected with that matter. First of all he should tell them that one of the claims of the company was a claim for \$80,000 against Messrs. Bischoffsheim for money advanced on account of that rescue; secondly, that the rescue was simply a question of bargain and sale, which resulted in placing Mr. Watson in power instead of Mr. Jay Gould. General Sickles was enlisted by Mr. McHenry, brought from Madrid, and sent to America to engineer this business, and the end of it was that \$350,000 was paid to certain parties, on receipt of which they went out of office and others were put in their places. At last Mr. Gould was induced to go, on a promise by General Sickles that everything should be forgotten and forgiven; but on the 22d November, 1872, a restitution action, as it was called, was commenced by President Watson against Jay

Gould, who was held to bail in a sum of one million dollars, and he was charged by Mr. Watson with embezzling and misappropriating the property of the company to the amount of millions of dollars; but according to American law a criminal charge could not be sustained three years after the time the offense was committed, and whether intentionally or unintentionally, that time had been allowed to expire, and it had become a question whether they could now indict him. This matter was discussed in Congress in 1869, and was reported in the 41st report, second session—number of report, 31. He would also call their attention to another book of great importance—the Report of a Judicial Committee of New York, held at Albany, and which began its sittings on March 18, 1873, and in which all the evidence about "the rescue" and a good deal more were laid before the committee. If it were not for the terrible consequences which followed, some of the transactions in reference to that company would read like an amusing comedy. Telegrams were sent from New York to this country, giving a sort of psalm of victory. One said, "Complete victory. Gould showed fight. Office full of people." The answer from Mr. McHenry was, "Thanks for brilliant victory." [Laughter.] This "brilliant victory" gave them Mr. Watson and fraudulent dividends. He did not hesitate to say that he believed "the rescue" as it was called, was a great mistake. He thought that it led to a state of things almost worse than that which existed before. He knew that it led to the election of a most incompetent President, and it also resulted in releasing Mr. Jay Gould. [Hear, hear.] He had called upon those present to give them time to put that concern into a sound state. He had urged them not to send, at present at all events, more money to America; he had urged them to have a thorough audit of the accounts, and he had urged them as an essential condition of success to be united. He hoped that those who attended the recent meetings at Dundee would follow the last part of his advice, and would see that the committee had every desire to conciliate and consult their fellow-countrymen in another part of the kingdom. In conclusion, Sir Edward had to apologize for having detained them so long.

Mr. Gilson Homan explained that the committee to which he belonged had nothing to do with issuing fresh mortgage bonds; that when he went to America, in 1872, with proxies for 250,000 shares from Bischoffsheim & Goldschmidt, to control the election, he was followed by James M. Henry with proxies for the same shares dated two weeks later. That when his London committee found that Bischoffsheim & Goldschmidt received reports of receipts of the Erie a day before they were sent to the committee, the latter refused to act longer.

Mr. Morris spoke favorably of his reception in America, the aid he received in making his inquiries, and of the present character of the New York courts. He thought unity among the proprietors was indispensable.

The following resolutions, submitted by the joint committees of bond and stockholders were then passed:

"That a Committee of Consultation be appointed in accordance with and for the objects set forth in the memorandum signed by Mr. H. J. Jewett and Sir E. W. Watkin, and dated Sept. 6, 1875, and that the following gentlemen be constituted such committee, with power to add to their number: Sir E. W. Watkin, M. P.; Sir C. Beadon, Mr. A. K. Cross, M. P.; Mr. B. Whitworth, M. P.; Mr. Westlake, Q. C., and Mr. H. Rawson, of Manchester, on behalf of the bondholders, and on behalf of the shareholders, Mr. P. McLangon, M. P.; Mr. J. M. Douglass, Mr. Leeming, M. P.; Mr. W. Weir and Mr. G. Smith; also Mr. Conybeare and Mr. Miller.

"That the Committee of Consultation be, and are hereby, instructed to prepare, with the assistance of such special representatives of any separate class as may be willing to co-operate with them, a scheme of reorganization of the company, and submit the same to a future meeting for adoption."

The Chairman, in reply to a question, said the amount held and represented by the gentlemen he had named was over £1,000,000 sterling, and they held every description of stock.

General Railroad News.

RAILROAD LAW.

The Missouri Law Regulating Rates.

The constitutionality of this law is involved in a suit now on trial in the Missouri Supreme Court, in the case of Sloan and Brown against the Pacific Railroad Company of Missouri, on appeal from the Johnson County Circuit. The plaintiffs claim that the company charged them more than it had a legal right to do, having charged the same amount for freight from Warrensburg to St. Louis as from St. Louis to Kansas City. Judgment was rendered in the court below for defendants. The object of the suit is to test the power of the Legislature to pass any law interfering with the right of the road to regulate its own rates of traffic for freight and passengers. The Pacific Railroad claims that under the act of its incorporation it has the absolute right to make and charge such rates as may be agreed upon by its board of directors, provided they be reasonable, and that any law impairing or infringing that right is unconstitutional and void.

Condemning Property of a Railroad Company.

In the case of the Peoria, Pekin & Jacksonville against the Peoria & Springfield Company, the Illinois Supreme Court decided that lands of railroad corporations not actually in use by them, or not absolutely necessary for the enjoyment of their franchises, are subject to be taken under the exercise of the right of eminent domain.

Carrying a Passenger Past Destination.

In Fisher against the Chicago, Rock Island & Pacific, it appeared that a freight train was in the habit of carrying passengers to a certain station, and before any different rule was made the plaintiff bought a ticket for that station, but was informed by the conductor that he would not stop there and was advised by him to take another extra train, to which he applied and was refused passage. He returned to the freight train, informed the conductor of the facts, and taking passage, was carried beyond his destination. The Illinois Supreme Court held that he was entitled to compensatory damages.

Injury to an Employee from a Defective Switch.

In the case of Patterson against the Pittsburgh & Connellsville Company in the Pennsylvania Supreme Court, the plaintiff, an employee of the company, was thrown from a car and injured in consequence of a defective switch. In an action brought in the lower court he offered to show that he had notified the track foreman and the Superintendent of the road of the defective condition of the switch; that they had promised to have the necessary repairs made and had requested him to continue to use the switch, exercising due care; that the repairs were not made and in consequence of this neglect he was hurt. The Court refused to admit this evidence, but the Supreme Court reversed the decision and held that the evidence was admissible.

Recovery of Excessive Freight Charges.

In the United States Circuit Court, at Portland, Me., in the case of Coolidge against the Grand Trunk Company, last week, a verdict was given for the plaintiff for \$150.18. The facts were that the Ohio & Mississippi Company took from St. Louis a lot of flour to be delivered in Portland, giving a through bill of lading with the freight charges stipulated thereon. The flour reached its destination, but the Grand Trunk Company required payment of a sum in excess of the rate agreed on, which it had

paid to companies west of its own line. The plaintiff paid the charges under protest, but meanwhile the flour had deteriorated, and was sold at a loss. The Court held that the *trader* would be under rude circumstances, and that the Grand Trunk was liable for actual damages. A motion was made for a new trial.

A Company's Liability for Kissing by an Employee.

In the case of *Craker* against the Chicago & Northwestern Company the Wisconsin Supreme Court has given its decision. The plaintiff, a lady, took passage on a train on the Madison Division and the conductor of the train, while on the journey, forcibly kissed her. She brought suit against the company in the Circuit Court and got a verdict for \$1,000 damages. The case was appealed, and now the Supreme Court decides as follows, the decision involving some important points:

1. A master is liable for a wrong done by his servant, whether through the negligence or the malice of the latter, in the course of an employment in which the servant is engaged to perform a duty which the master owes to the person injured.
2. It seems that the master should be liable in all cases for the servant's wrongful act done in the course of his employment, whether through negligence or malice.
3. A railroad company is bound to protect female passengers on its trains from all indecent approach or assault; and where a conductor on a company's train makes such an assault on a female passenger, the company is liable for compensatory damages.
4. Exemplary damages cannot be recovered against the principal for a wrongful and malicious act of the agent, neither authorized nor ratified by the principal.
5. In actions for personal torts, the compensatory damages which may be recovered of the principal for the agent's act include not merely the plaintiff's pecuniary loss, but also compensation for mental suffering.
6. In awarding compensatory damages in such cases, no distinction is to be made between other forms of mental suffering and that which consists in a sense of wrong or insult arising from an act really or apparently dictated by a spirit of willful injury or by a deliberate intention to vex, degrade or insult.
7. A verdict of \$1,000 damages for the insult offered by defendant's conductor to the plaintiff in this case, held not so excessive as to authorize the court to set it aside.

Law Regulating Speed of Trains in Illinois.

In the Chicago, Rock Island & Pacific against Reidy, on appeal, the Illinois Supreme Court held that the law of 1865, making railroad companies liable for all damages done to any individual, and for stock killed by any train or engine in any incorporated city or town, where their trains are permitted to be run at a speed greater than that fixed by the statute, is not unconstitutional.

Accidental Injury to Fences.

In Robinson against the Grand Trunk Company, appeal from the Macomb County Circuit, the Michigan Supreme Court recently held that a railroad company, though required to maintain side-fencing, is not liable for the destruction of cattle suddenly let loose upon the track through a breach in the fencing caused by a storm, and existing through no fault or neglect of the company.

The requirement of the law of 1873 is that companies shall make proper fences and thereafter maintain them, the idea of which is not that the companies must, at all hazards, keep the fences intact in every foot of their extent and without any interruption from whatever cause, but that there must be no interruption caused by the neglect or fault of companies, or, in case of a breach from causes beyond their control, no interruption for a longer period than is reasonable under the circumstances.

In this case some rods of fence were blown down by a storm, in consequence of which plaintiff's cattle got upon the track and several of them were killed.

Building Railroad on a Public Street.

In Phillips against the Dunkirk, Warren & Pittsburgh Company, where the defendant had laid a track along the public road in front of plaintiff's land, and constructed a new road adjoining the old one and to take its place, the Pennsylvania Supreme Court, reversing the decision of the Common Pleas, held that the plaintiff was entitled to recover, since the right to the land was in him, subject only to the public right of way, and when abandoned by the latter it reverted absolutely to plaintiff; that the defendant did not acquire the right to appropriate the old road by its construction of a new one adjoining.

In the similar case of Hartley and others against the Indianapolis, Bloomington & Western Company, the Illinois Supreme Court held that where a municipality owns absolutely the fee in a street it may grant the right to lay tracks and the abutting land-owners cannot claim damages. But where right of way for a street has been acquired by condemnation or voluntary gift, and the fee remains with the abutting owners, the grant of the right to lay a track is an additional burden, which entitles those owners to compensation. The location of the track on the street is also an appropriation of the property to its own use by the railroad company, which cannot be done without making compensation. If in laying the track it should also cause an injury to the adjoining landholder, as in making his property more difficult of access, he has a just claim for compensatory damages.

Refusal to Carry Passengers on a Freight Train.

In Johnson against the Illinois Central Company, the Illinois Supreme Court held:

1. A company has a right to make a rule that no passenger shall be carried on a freight train; but when it is in the habit of carrying passengers on such a train and has its time posted in the station, it will not be justified in refusing to carry a passenger from such station or in putting him off the train.
2. Where a rule is adopted that no passenger shall be carried on a freight train unless he first buys a ticket, suitable facilities must be given by opening the ticket office a reasonable time before the departure of the train. Should the office not be open, the passenger has the right to be carried on getting on the train and tendering the regular fare to the conductor.
3. In such a case, should the conductor stop the train and put the passenger off, the company would be liable for damages.
4. In such a case \$200 damages was not excessive.

Animals Killed at a Crossing.

In the case of the Quincy, Alton & St. Louis Company against Wellhoener, among other points, mainly of practice, the Illinois Supreme Court held that a railroad company can only be held liable for animals killed at a public road crossing, where its employees have been guilty of negligence or willful misconduct in the management of the train. It is not enough to prove that the bell was not rung or the whistle sounded; it must be shown by evidence that the accident was caused by such omission.

Receipts from Subsidy Lands as Net Earnings.

In the case of the Illinois Central Railroad Company it appears that the practice of the Land Department has been to sell lands on long time and take notes therefor. These notes bear no interest, but are made for a round sum payable at a certain time, and are, it is stated, made for a larger sum than the cash price of the land, the increase being in place of interest or premium for the time given. The company has, from time to time, included in its dividends moneys collected on

these notes, and claims that such part of its dividends as was made up in this way should be exempt from tax, the money not being net income nor profit. The Commissioner of Internal Revenue decides that a sum equal to the value of these notes at the time when they were given, that is their present worth at that time, is not liable to dividend tax, but that so much of the amount received on the notes over and above such value as is referable to the years in which dividends were taxable should be treated as interest, and thus constitutes a part of the net income or profit and is liable to tax.

Manufacturers' Lien on a Locomotive.

The Keokuk (Ia.) *Gate City* says: "An important case was recently decided in the United States Circuit Court at Des Moines. The Pittsburgh Locomotive & Car Works leased, in 1873, a locomotive to the Mississippi Valley and Western Railroad for nine months, with the privilege of purchase. One-fourth of the value was paid at the time, and the balance was to be paid at or before the expiration of the lease; if not, the manufacturers were to repossess the engine. The railroad company agreed not to remove the engine from their control without the consent of the manufacturers. The engine was delivered to the railroad company, who subsequently borrowed \$1,250 from a national bank in Keokuk, and pledged the engine to the bank for security. The bank had no notice of the manufacturers' prior claim. The latter sued the former to obtain possession. There was a statute in force in Iowa at the time which prevented a prior claim which depended on certain conditions, unless the same was recorded. The judge decided that the lease made in Pennsylvania did not show a sale of the engine; that the Iowa statute controlled the case; and that the manufacturers' rights were subordinate to the lien of the bank, and also that national banks have the right to take personal chattels as security for loans.

THE SCRAP HEAP.

Railroad Manufacturers.

The Baldwin Locomotive Works in Philadelphia recently turned out two freight engines, hard coal-burners, for the Old Colony road.

The Southwestern Car Company at Jeffersonville, Ind., has a contract to build 75 box cars for the Erie.

The Star Nut Lock Company at Leacock, Lancaster County, Pa., is manufacturing Dittman's patent improved rail joint, the peculiarity of which is that a number of circular recesses are formed in the fish-plate on one side of the rail. In these recesses are placed rubber washers upon which the heads of the bolts rest. The use of the rubber, it is claimed, avoids undue strain upon the bolt and also keeps the nut from working loose. The bolts are prevented from turning by making the shank of an oval form for a short distance from the head, this portion fitting into an oval hole in the fish-plate.

Week before last the Lucy Furnace at Pittsburgh turned out 762 tons 194 lbs. of pig iron, which is said to be a run unexampled in this country or Great Britain. Of this iron 7 per cent. was No. 1 foundry, the rest gray forge. The furnace is 20 feet at base and 75 feet high, and the fuel used was 60 per cent. Carnegie washed coke and 40 per cent. Connellsville coke.

The Indianapolis Rolling Mill Company has contracted to re-roll 10 miles of iron rails for the Indianapolis, Bloomington & Western road.

The Ranlett Manufacturing Company, of Laconia, N. H., is making 25 to 30 car wheels per day. The shops are repairing some cars for the Boston & Lowell, building some snow-gaugers for the Troy & Greenfield road, and some flat cars for contractor B. N. Farren, on that line. They will shortly begin work on a large Canadian contract.

The Litchfield (Ill.) Car Works are full of work, running full time with a good force.

The Whitaker Iron Company is the name of a corporation recently organized at Wheeling, W. Va., to manufacture railroad spikes and other iron work. The capital stock is \$125,000, with the right to increase to \$500,000.

Vacuum Brakes in England.

The Metropolitan Railway, which has had experimental trains fitted with Smith's vacuum brakes since June, 1874, has now had them applied to all its trains, and they have been in full operation since Oct. 4. This company, at the end of last year, had 46 locomotives, and 180 passenger cars.

Brooks Locomotive Works.

A Dunkirk newspaper says: "We are glad to learn, as will all our citizens, that the Brooks Locomotive Works have received an order for eight additional locomotives for the Erie Railway. This, with the contracts now on hand, will insure work for the force now employed through the coming winter until April, by which time it is hoped the business of the country will have sufficiently revived to place the works back on the plane of all the work that can be performed. The news will be welcome, not only to the mechanics employed, but to our citizens generally, who are directly interested in the prosperity of the locomotive works. There has been, during the past year, a general depression in the business of locomotive building throughout the country, but few shops doing anything at all. The Brooks Works, ever anxious to do all in their power for the help of their men, have kept running, although at a loss to themselves. They have now six locomotives on their hands, which were built for the purpose of giving men work, and with the hope of furnishing employment until contracts could be secured. By the energy and hard work of Messrs. Brooks & Hinman that time has now come. Although this will not increase the present force employed at the shops, for the number now employed it insures steady work through the winter months.

Quick Time by Rail.

The Poughkeepsie *Eagle* of Oct. 23 says: "On Wednesday morning last three of the head officers of the New York Central & Hudson River Railroad appeared at the Grand Central Depot after the morning express, which left at 8 a. m., had been gone half an hour. On board that train was the family of one of the railroad men referred to, and he was very anxious to join them. It was decided that the train could be caught. The new locomotive Monitor was backed up to the station, the gentlemen got on board, when Mike Voke, the engineer, received the signal, pulled the throttle, and the little Monitor started on the chase. She sped along the avenue at a lively gait, and in a jiffy rounded Spuyten Duyvil Junction and turned her head northward. In the cab sat the railroad officers. The locomotive was supplied with the noted vacuum brake, the track by previous arrangement was clear before her, and the pursuit of the express had begun in earnest. She passed Yonkers at the rate of forty miles an hour. She whirled through Sing Sing at fifty miles an hour, but that had to be increased, and by the time she struck the grade at Montrose she was running a mile a minute. She was doing splendid work, but she had to run slow through Peekskill, and there time was lost.

"When she reached Dutchess Junction more time was lost because of a freight train. Before the drawbridge was reached the engineer pulled out his watch and saw that in nine minutes the express would leave Poughkeepsie, which was eight miles distant. The fresh fire and lowered water had done their work well, and the engine had a full head of steam. Again the engineer pulled the throttle and the ponderous wheels responded. Flagmen and trackmen who had been used to taking a little time in getting out of the way of approaching trains, were astounded at the speed and had to run for their lives. The locomotive dashed by Barnegat like a shot out of a cannon, and

when she passed Milton Ferry, before the station man could get out of his door to look at her, she was whirling through the little tunnel a half-mile beyond, and in just exactly seven minutes from the time of passing New Hamburg station the anxious officer jumped from the cab, and, bidding his companions adieu, stepped on the hind car of the express train lying at this station."

The Pennsylvania Steel Company.

The annual report of President Felton to the stockholders gives the following statement of the year's work:

"During the past year we have made 29,811 tons of steel rails, being an increase of 48 per cent. over last year. We have sold and delivered: Steel rails, 29,327 tons, being an increase of 72 per cent.; steel forgings, eight tons, being a decrease of 20 per cent.; steel blooms and billets, 864 tons, being a decrease of 25 per cent.; steel rail-ends, 928 tons, being a decrease of 55 per cent.; steel scrap, 808 tons, being a decrease of 19 per cent.; frogs, crossings and switches, amounting to \$111,705.38, being an increase of 98 per cent.—all as compared with sales and deliveries for the previous year. Sales of steel rails have been made to 30 different railroad companies; frogs, crossings and switches to 56 different railroad companies.

"Our own blast furnace has been in operation only nine months during the past year, and in that time has produced 7,299 tons of pig iron, being an increase of 34 per cent. over the quantity made during the whole previous year. We have begun the construction of a second blast furnace, two feet more in diameter than our first, which we expect to have in operation by Jan. 1 next.

"With the late improvements made in the Bessemer rail mill, and other appendages, we have now the capacity to turn out 45,000 tons of steel rails annually. The limited capacity of our forge department has obliged us to decline many orders for forgings, blooms, and billets; in fact, it is not sufficient to fully supply our own rail mill as now improved. This we propose to supplement with a blooming mill of the largest capacity now made.

A Lesson to Brakemen.

The Detroit *Free Press* narrates the following incident as having occurred at the police court of that city recently: "The first man out was a railroad brakeman, who had been celebrating his grandfather's birthday.

'You run on the cars, eh?' asked the court.

'Yes, sir.'

'And you belong to that class of men who open the door as the train stops at Pontiac and yell out "Upontyack" at the passengers.'

'The man was silent.

'It makes my bones boil when I think how I've been used on these railroads,' continued his Honor. 'The seals are locked, the water-cooler empty, the windows won't stay up and every few minutes you open the door and cry out "Jawkun" for Jackson, "Kl-a-zoo" for Kalamazoo. I believe I'll mark you for six months.'

'Please, sir,' protested the prisoner.

'I must strike a blow at this great evil somewhere, and I might as well commence on you.'

'Please, sir, I was never here before, and it's my first drunk in four years.'

'His Honor leaned back and chewed the corner of a blotting pad while he reflected. Finally he said:

'Well, I'll let you go, though I'll be blamed for it. Now, sir, after this you want to adopt a different style. When the train approaches a station you want to go through the car like a cat, smile gently, and say in quiet tones: "Ladies and gentlemen, this train is now in the outskirts of the beautiful city of Ypsilanti, and such of you as desire to step off will please make ready, and may health and prosperity ever attend you." What an innovation that would be, sir! How the travelling public would rush for the road! Will you do this, Mr. Wellington?' 'The prisoner promised, and was allowed to go.'

English Light Locomotives.

The value of light locomotives for local traffic has been clearly established by the success of the engines designed by Mr. Stroudley for the South London line of the Brighton Company. These engines are familiarly known as "Terriers," and the *Engineer* mentions, as a proof of their capabilities, that one of the trains having come to a standstill in consequence of the driver allowing his fusible plug to melt, the following train pushed the dead engine and its load, as well as drew its own train, from Denmark Hill to London Bridge, stopping at all stations, and keeping time. These would be altogether 20 carriages and a dead engine. These tank engines have six wheels coupled, not quite 4 ft. in diameter, with inside cylinders 12 in. in diameter and 20 in. stroke. They are reported as doing their work with a consumption of fuel that rarely exceeds 18 lbs. per mile. They weigh under 25 tons in working order, and work at an average pressure of 100 lbs.

Preventing Boiler Incrustations.

A substance said to be employed with much success in Germany, is a compound of tannin with glue or gelatine. It is prepared by boiling leather scraps and cuttings in water, and pouring the dilute and impure glue water thus obtained into a boiling solution of tannin. The tannate of glue is precipitated in brownish red flakes, which collect together on being boiled, and finally sink to the bottom, as a coherent mass, which is soft and elastic when warm, but hard and brittle when cold. A sample prepared by mixing ordinary glue with a decoction of oak bark was almost perfectly insoluble, but on boiling, the sides of the vessel became almost completely covered with the softened mass. It is this property that prevents the deposition of a crystalline incrustation. The preparation, which is made by Praeger, sells for \$7.30 gold per cwt. in Leipzig, and is highly recommended. Mohr, in an address before a society at Mannheim, spoke very favorably of the results of employing glycerine for the same purpose, as it not only prevented the formation of these troublesome deposits, but also removed them when already formed. The mineral matters are precipitated in the presence of glycerine as a fine powder which is easily removed. The quantity required for a boiler with 160 square feet of heating surface is 20 pounds every fortnight. At the same meeting Mr. Lehzen stated that glycerine was only useful in water containing carbonate of lime, while in water containing the sulphate it exerted no beneficial effect. Elsassemmer thought that the fact of its dissolving old incrustations was a sufficient recommendation. The President, Mr. R. Schmidt, stated that Burritt's composition really did prevent the formation of incrustation, but caused the formation of a large quantity of slime and impurities, which stopped up all the cocks and pipes. He considered de Haen's method the best of any yet introduced. This method consists in precipitating the bicarbonate of lime from the water by means of caustic lime, and the sulphate of lime by chloride of barium, both at one operation. If a slight excess of lime is employed, the sulphate of baryta and carbonate of lime settle so rapidly that the clarified water can be drawn off after the lapse of 15 minutes.

Fast Freight Time.

On Sunday, Oct. 24, the stock train of 25 cars live stock made the through trip from Amherstburg to Buffalo, on the Canada Southern Railway, a distance of 236 miles, in ten hours and thirty minutes, including all the stops for wood and water and passing trains. The train was in charge of Conductor Underhill and Engineer McAdams, Western Division, and Conductor Lyon and Engineer Minor, Eastern Division.



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Editorial Announcements.

Addresses.—Business letters should be addressed and drafts made payable to THE RAILROAD GAZETTE. Communications for the attention of the Editors should be addressed EDITOR RAILROAD GAZETTE.

Passes.—Having been informed that an advertising solicitor has requested passes on account of the Railroad Gazette, we take this occasion to say that all persons connected with this paper are forbidden to ask for passes under any circumstances, and we will be thankful to have any act of the kind reported to this office.

Advertisements.—We wish it distinctly understood that we will entertain no proposition to publish anything in this journal for pay, EXCEPT IN THE ADVERTISING COLUMNS. We give in our editorial columns OUR OWN OPINIONS, and those only, and in our news columns present only such matter as we consider interesting and important to our readers. Those who wish to recommend their inventions, machinery, supplies, financial schemes, etc., to our readers can do so fully in our advertising columns, but it is useless to ask us to recommend them editorially, either for money or in consideration of advertising patronage.

Contributions.—Subscribers and others will materially assist us in making our news accurate and complete if they will send us early information of events which take place under their observation, such as changes in railroad officers, organizations and changes of companies, the letting, progress and completion of contracts for new works or important improvements of old ones, experiments in the construction of roads and machinery and in their management, particulars as to the business of railroads, and suggestions as to its improvement. Discussions of subjects pertaining to ALL DEPARTMENTS of railroad business by men practically acquainted with them are especially desired. Officers will oblige us by forwarding early copies of notices of meetings, elections, appointments, and especially annual reports, some notice of all of which will be published.

THE PROSPECT FOR WINTER TRAFFIC.

Navigation on the Great Lakes and the canals will soon close, and the great bulk of traffic in the North will move by rail until spring, or refuse to move at all. The summer traffic was most disastrous to the carriers, rates being low without example, by water and by rail, and yet the amount carried less rather than greater than usual. Where railroads have succeeded in securing traffic as great as or greater than that of former years, it has been, usually, by attracting some new branch of traffic by exceptionally low rates—rates which perhaps have caused less loss than the laying-up of rolling stock and the discharge of train-men would have done; but usually leaving little or no profit available for interest on capital. Thus great quantities of building stone, larger quantities than ever before of grain along water routes, and similar shipments, have been moved by rail. Anthracite coal, even, we have been told, has been taken by rail from Buffalo to Chicago, while scores of lake vessels compete for it at fifty cents a ton; and generally Western lake cities could get stone from Cleveland, bituminous coal from the Mahoning or Hocking valleys in Ohio, and from Pittsburgh, anthracite from the Lehigh valley, about as cheaply as from the mines and quarries in their suburbs. In this way a considerable traffic has been developed on many lines which has served to keep their rolling stock busy, but has added very little to their profits. Meanwhile, most of the time the rates were kept ridiculously low on that considerable part of the traffic which can afford to pay well, and will not be decreased by profitable rates, through a vain contest among the carriers.

The fall traffic, it was hoped, would make better returns; but until recently that too has been disappointing. In the Northwest there was a large grain crop to ship, and in Europe bad harvests made a market probably for all we have to spare. But there was a considerable surplus of last year's harvest on hand in Europe, which prevented any great rise in prices; our farmers were sufficiently independent to be able to hold back their crops, the harvest itself was late; and the result has been that until the middle of October the shipments for the crop year (beginning with August) were somewhat less than those of last year even, last year's having been smaller than for several preceding years. And this was in spite of rates for transportation which were low without example, the lake and canal

rate having been generally about ten cents a bushel from Chicago to New York. September, October and November are usually months of the greatest traffic movement for roads connected with the grain-producing districts. Evidently the first two of these months have passed without that increase in traffic which was naturally to be expected, in view of the Northwestern crops and the foreign demand. During the past two or three weeks, however, there has been a decided revival in the grain movement, and shipments, and especially receipts at the lake ports, have been very heavy.

This movement began when the season was far advanced, and lake rates were increased. The latter are now twice as high as they were a month ago, but on the 1st of November were yet only five cents a bushel from Chicago to Buffalo, so that they still permit the freest movement for the few weeks that the lakes remain open. There is time enough yet for a heavy grain movement before navigation closes; and, for that matter, with rail rates as they now stand, or even somewhat higher, there may be an active movement all winter; but at current rates, the more grain the railroads carry east in the winter, the more money will they lose.

Meanwhile in the South, which has perhaps the largest cotton crop on record, the movement of this staple has been unusually free; prices are low, but the crops come forward nevertheless, and must give the Southern railroads a large traffic. They, too, have competed for the carrying of this staple until in many cases the business must have been wholly unprofitable; but they are already doing better, and seem likely hereafter to get something like a fair income from the carrying of this great crop.

This week begins the regular packing season in the Northwest, and the carrying of hogs and hog products will henceforth form a leading branch of the business of the railroads. This is an important traffic, which the railroads have pretty much to themselves; though a considerable portion of the packed meats goes from the lake ports to Buffalo and Erie by propellers, and down the Mississippi by steamboats; but the hogs are all carried to the packers by rail, and most of the produce goes east and south by rail also.

This is a traffic which increases more rapidly than the grain traffic, as the produce bears transportation further—that is, can bear a greater expense for transportation. Last year it was the one redeeming feature of Northwestern traffic—was larger than ever before; and the product bore such high prices that it brought an income to Northwestern farmers that must have had a powerful reflex influence on most other railroad business. This year the country is in one respect better prepared than last to afford a large hog traffic; for it has a much larger corn crop. However, it takes hogs as well as corn to make pork, and it seems questionable whether there are as many hogs to fatten in the country as there were last year. Whatever numbers there may be we may be reasonably sure that they will be fed till they are fat, and that they will come forward pretty freely, the price being high and returning a good profit to the farmer.

A very much lighter staple, but one all-important to some sections of the country, is tobacco. It is especially important as an export staple of great value. This crop is one of the largest ever known this year, and parts of Virginia and Kentucky are likely to be made prosperous in consequence.

The California wheat crop, much lighter than last year's, has been going forward quite freely, and comparatively a small stock is left to compete with the Northwestern wheat in the European markets.

The corn crop is usually not marketed largely until Spring. There is an enormous one; the price is remunerative, though lower than last year, and the foreign demand, which was quite light last year, is likely to be good this, on account of the higher price of wheat.

So far as grain is concerned, it is reasonable to suppose that there will be an unusually large movement during the coming winter. If there had been heavy exports this fall, the case would be different; but we have sent very little of this crop to Europe so far, and there is an accumulation of evidence that a great deal will be wanted in England, and that no other country than this has much to spare. Russia, our principal competitor, has a short crop; France has a fourth or a third less than last year's enormous crop; and but for the magnificent harvests of 1874, doubtless the price of wheat would be very high. It is the surplus of last year's crop that has prevented an eager demand heretofore, and this surplus may prevent high prices this year; but it is not likely to prevent England's taking pretty much all the wheat we have to spare before next harvest.

Petroleum forms another of our most important exports. There seems to be no limit to the production of this article, and over production often makes the business unprofitable; but the demand is enormous, and though this year's exports are somewhat less than last year's, still they are larger than those of any previous year. This affords the railroads a very large traffic, on which they can, if they will, secure profitable rates. Most of that exported goes

four or five hundred miles before reaching a seaport; and an enormous quantity is distributed all over the country for domestic consumption. Nearly all goes by rail. As for the prospects for the business for the next few months we can say nothing, but know no reason why it should not be as large as it has been.

Thus it appears that the chief exports of the country are this year abundant, many of them unusually so. Most of them are not very low in price, but bring fair returns to the producer. The staples named are those on which, to a great extent, the other industries of the country rest. When the grain, cotton and tobacco growers, the cattle raisers, and the petroleum producers and manufacturers have plenty of money, they become free buyers, and thus set at work the armies of manufacturers, who in this country for the most part work only to supply the home demand, and thus have no work without a home demand, but, on the other hand, with a home demand can hardly fail of work. This secondary action of the rapid marketing of large surplus productions would probably be simultaneous with the production itself if business were in a normal condition. But it is not, there has been a collapse, and there is a lack of confidence. Manufacturers limit their efforts pretty closely to production sufficient for the existing, not for the prospective, demand. Thus we will probably have to wait until the producers have got the pay for their abundant crops before there is much increase in activity in those industries which supply these producers. And it is not to be expected that there will be a rapid and great increase in activity and prosperity. The staples which we have mentioned, however, are likely, it seems, to require a considerably greater work from the carriers than last year, and to yield a somewhat better return to the producers; in view of the present very low prices of most manufactured goods, probably the crops of 1875 will buy nearly as much as those of any previous year. And that is the true measure of its value. It is a good quantity of other articles of consumption that the farmers want for their wheat and cotton; and it makes little difference if they get but a few dollars for their crops, provided that a few dollars will buy a great deal of cloth, groceries, lumber, hardware, etc.

Expenses of a Narrow-Gauge Railroad.

The Toronto & Nipissing Railway Company's report states on its title-page that it was "The first narrow-gauge railway opened for traffic on the continent of America," and as a line of some length open for public traffic, this, we believe, is true. It was constructed to give Toronto access to the country north and northeast of it—not very thickly peopled, but abounding in lumber, which often affords a large traffic from thinly peopled districts. The road is of 3 ft. 6 in. gauge, and was constructed by an English engineer of good reputation, Mr. Edmund Wragge, now General Manager of another and larger railroad of the same gauge, built a little later, from Toronto northwestward. The Toronto & Nipissing is 87 miles long, and has now been in operation several years. Its capital account amounts to about \$18,800 (specie) per mile, equivalent at this time to about \$22,000 in our currency. Nearly 30 per cent. of this capital was supplied by Government and municipal subscriptions.

By the report for the year ending with June last, the earnings of this railroad were \$221,812.51, and its expenses \$135,733.21, or 61.1-14 per cent. This gives gross receipts of \$2,550 and net earnings of \$990 per mile of road—a little more than 5 per cent. on the cost, which, as new railroads go, is not a very bad showing.

In order to make anything like a comparison of one railroad with another, we must know how much work it does and the cost of doing it. The Toronto & Nipissing report does not give the passenger and tonnage mileage, but it reports what is perhaps as good a unit of work, if we know the car capacity, that is, the mileage of cars, with the train mileage. By this we learn that the working expenses per mile run by freight and passenger trains were 72 cents gold, and per mile run by cars 10.02 cents. We believe the freight cars have a capacity for seven tons of freight each; at least they carry less than the standard gauge, and the locomotives are nearly always less powerful than those used on the standard gauge, so that a car mile and a train mile on a narrow-gauge road generally are equivalent to much smaller amounts of work than the same units on wider gauges, so that with the same cost per unit for working, the standard gauge is the cheaper.

The Brockville & Ottawa Railway, another Canada railroad of 5 ft. 6 in. gauge, three miles shorter than the Toronto & Nipissing, and with a little greater train mileage, in 1871-72 incurred an expense of 77 cents per train-mile of every kind, against 63 cents on the Toronto & Nipissing in 1874-75, with much smaller engines and presumably lighter trains. We have no report of car mileage or traffic on the Brockville & Ottawa, and so cannot compare the train loads.

The Midland Railway of Canada, also of 5 ft. 6 in. gauge at that time, has 119 miles of road, and in 1873 had a train mileage about 75 per cent. greater than that of

the Toronto & Nipissing. The expense per train mile that year—mileage of trains hauled by large engines—was 48½ cents, against 63 cents on the Toronto & Nipissing for the last year reported.

The 149 miles of the Intercolonial and the European & North American railroads in the Province of New Brunswick, also of 5 ft. 6 in. gauge, were worked by the Dominion Government during the year ending with June 30, 1871, (when labor and supplies were much higher than last year), at an expense per broad-gauge car moved one mile of 9.94 cents, against 10.02 cents per narrow-gauge car moved one mile on the Toronto & Nipissing in the year reported. The train mileage per mile of road was 1,376 miles on the New Brunswick lines and 2,471 on the Toronto & Nipissing—that is, the latter had the heavier traffic.

On the Grand Trunk Railway during the year ending with June, 1873, the expense per car (5 ft. 6 in. gauge then) hauled one mile was 7.004 cents, against 10.02 cents on the Toronto & Nipissing two years later, when labor and materials were much lower.

The car mileage per mile of road on the Toronto & Nipissing was 15,567 while on the Grand Trunk it was 64,918, and the heavier traffic of course gave the broad gauge road a material advantage. On the other hand, the Grand Trunk has a large traffic which has to be moved at a high and therefore costly speed; the Toronto & Nipissing very little. The fastest "express" train of the latter road runs at the rate of 16½ miles an hour; the Grand Trunk has trains which run 25 miles an hour.

The Northern Railway of Canada, from Toronto to Collingwood, with branches, 152½ miles, of 5 ft. 6 in. gauge, in 1873 ran its trains at an average expense of 73 cents per mile.

During the year ending with July, 1873, the Great Western of Canada, with the standard gauge, hauled its fast and heavy trains at an average expense of less than 72 cents per mile, but its traffic is so much greater than that of the narrow gauge road, and the weight and speed of trains so much greater, that it cannot fairly be compared with it. Its average train-load was probably several times as great.

We have compared the results on most of the other Canada roads with those on the Toronto & Nipissing, when we have found them so stated as to admit of comparison. If, as we believe, the car capacity is as 10 to 7 in favor of the broad-gauge lines, and the train capacity greater still in their favor, we shall see that this first American narrow-gauge railroad has not been able to do its work cheaper than its neighbors, but apparently has had to pay considerably more for doing the same amount of work under similar circumstances.

As some index to the probable train capacity on this road, we note that seven of its 12 locomotives weigh but 15 tons each, and have 11x18 in. cylinders; two of the others weigh 20 tons each, two 25, and one 40 tons (a Fairlie with 12 drivers), the average weight of the locomotives being 19.6 tons. We also notice that while the greatest weight on a driving wheel is 41-6 tons, the iron weighing 40 lbs. per yard with which the road was originally laid seems to have proved too light. The Engineer's report says: "During the past year 300 tons of steel and 100 tons of iron rails have been laid down on the main line, between Scarborough Junction and Uxbridge. These are all of 56 lbs. weight, and the 40 lbs. rails which they replace are all either laid in sidings or are available for that purpose, none of them being altogether worn out." As the company is financially embarrassed, we may assume that heavier rails were necessary.

Most railroads of standard gauge in this country are constructed with 56 lbs. iron rails, even where traffic is considerable and speeds fast. If the narrow-gauge rolling stock of the Toronto & Nipissing road requires rails of equal weight, it is difficult to see what advantage it has over the ordinary equipment.

It is rarely possible to compare directly the expenses of two railroads. If with similar traffic, similar lengths of haul, similar grades, etc., one may be worked at high speed at much greater necessary cost than another, and thus the work done will be a different kind of work; or one may carry all its traffic in a single large train, the other have many small ones. We do not pretend that we have data enough to make an equation, as it were, of the traffics of any of the roads named. But we have made as many comparisons as possible with Canadian roads, some of which we may suppose to work at as great a disadvantage as the narrow-gauge line. Generally narrow-gauge roads are worked at lower speeds than the average standard-gauge road. Without exception, we believe, in this country they are roads of very light traffic, though there are many standard-gauge roads with as little business. The standard-gauge roads with light traffic, however, are usually much heavier than their traffic requires, and calculated for a rate of speed much too great to be economical with a light traffic unless very high rates can be charged, and in such cases the less amount of capital in the light road gives it the advantage—an advantage, however, due to its lightness and not to its narrowness. On the other hand there are several light railroads of standard-gauge

in the country, chiefly constructed for passenger traffic, which have cost as little as any narrow-gauge roads yet built, and have a lighter rolling stock in proportion to capacity. These are mostly private roads, and we have seen no reports of their expenses.

Record of New Railroad Construction.

This number of the *Railroad Gazette* has information of the laying of track on new railroads as follows:

Groversville & Northville.—Track is laid from Groversville, N. Y., northeast 14 miles to Cranberry Creek.

Palisade & Eureka.—Extended from Alpha, Nev., southward to Eureka, 45 miles, completing the road, which is of 3 feet gauge and 90 miles long.

San Francisco & North Pacific.—On the *Guerneville Branch* track has been laid for 6½ miles from Fulton, Cal.

This is a total of 65½ miles of new railroad, making 996 miles completed in the United States in 1875, against 1,363 miles reported for the same period in 1874, 3,075 in 1873, and 5,709 in 1872.

THE CENTRAL VERMONT CASE is the subject of a caricature in the *St. Albans Messenger*, published at the home of Governor Smith, and the headquarters of the company. We cannot say much for it as a work of art, but certainly there is nothing obscure about its meaning. A gentleman bearing, perhaps, a remote likeness to the first President of the Northern Pacific, is seen on the left carrying away an enormous bag labelled "P" from a wide open and empty safe, over the entrance of which is the sign, "Central Vermont Treasury," and posted against the back wall a paper with the inscription, "Cleaned out (though there is something on its floor that looks as if it might be a cent.) In front of the opened door Justice sits on a bench, blindfolded with a greenback, her back towards the retreating money-bearer, her scales thrown on the ground, and a breast pocket from which protrudes a paste-board on which may be read "Pass, C. Vt." Under the engraving are sundry extracts from documents and testimony in the Central Vermont cases, such as the "Smalley voucher," which reads: "Received of Hon. Lawrence Brainerd \$3,000 for expenses and money paid out in the Legislature, and preparatory thereto, for the Vt. & Canada Railroad, at the October Session of 1858. D. A. Smalley." On the whole, we gather that the *St. Albans Messenger* is not inclined to believe that the trustees of the Vermont Central and Vermont & Canada properties have always managed affairs strictly for the best interests of the trusts; but then there are always some people who have no faith in human nature.

NEW PUBLICATIONS.

A Treatise on the Richards's Steam-Engine Indicator (Manufactured by Elliott Bros., London), and the Development and Application of Force in the Steam-Engine. By Charles T. Porter. Third Edition, Revised and Enlarged. New York: D. Van Nostrand, pp. 258.

This is virtually a new book. The statement, on the title page, that it is "revised and enlarged," scarcely describes the change that has been made. We find on nearly every page new diagrams, new tables, changes in the old tables, and new demonstrations. After a careful examination, we feel convinced that these changes are almost invariably of such a nature as to improve the character of the work; and we hazard little in saying that there is no treatise on the indicator in the English language that can be compared to it. Mr. Porter is an enthusiast on the subject of the indicator, so that he is inclined to extend the field in which investigations may be conducted with this instrument. He is careful, in doing so, to point out the precautions to be taken, and the limitations of the methods; and, indeed, we think the reader will agree with us that the hints on practical manipulation are among the most interesting and valuable portions of the book. But the student who masters the contents of this work will have gained a good insight into the theory of the steam-engine, together with that of the indicator; for Mr. Porter succeeds very happily in his attempt to show the intimate connection of the two. The steam tables in the present edition have been mostly calculated anew, and give the results of Fairbairn's and Tate's experiments on the density of steam. With the exception of similar tables in Nystrom's "Pocket-Book," we believe these results are not generally accessible.

Mr. Porter is doubtless well known to our readers as the builder of the Allen engine, which has a high piston speed, the advantage of which is also well known to locomotive builders. In the present work, the reasons for this advantage are discussed at considerable length, and with great force and clearness. The chief matter of discussion, in connection with this engine, is the benefit to be derived from the weight of the reciprocating parts, in equalizing the pressure upon the crank-pin. This part of the work has been wholly re-written and greatly enlarged; and we believe, after a careful examination, that it is perfectly free from the fallacies which have sometimes been stated as a part of the theory of the Allen engine. Indeed, Mr. Porter could hardly go wrong after introducing a portion of Dr. Barnard's able paper on the subject.

We hope we have said enough to convince our readers that this is a book worth buying and reading, and valuable for purposes of study and reference.

We noted, in our reading, a few points for criticism, such as statements carelessly made, and slight inaccuracies in definition or explanation; but they are generally on matters of comparatively little importance, and the work, taken as a whole, is unusually precise in its statements of fact and theory. We must except from this general commendation the remark, on page 45, that nothing is known in regard to the expansion of water when heated above 212° Fahrenheit, and on page 111, that the "precise equivalent" of the unit of heat is 772 foot-pounds. This last criticism may seem hypercritical to some,

but it will not to those who have observed how critically Mr. Porter himself generally notices every fact of this kind, as is well instanced in his remarks on the weight of a cubic foot of distilled water of maximum density, page 42.

A Report on Wear of Journal Bearings.

Mr. W. E. Chamberlain, Master Car-Builder of the Boston Division of the Boston & Albany Railroad, has been keeping a record of the wear of journal bearings of different kinds under his cars, and makes his first report in the following form:

REPORT OF JOURNAL BEARINGS 3¼ X 7 IN.

Kind of bearing.	No. of bearings.	Original weight of bearings, lbs.	Miles run.	Worth of bearings when put in, lbs.	Weight of bearings when taken out, lbs.	Weight of bearings worn out, lbs.	No. of miles run.	Worth of bearings when taken out, lbs.	Cost of running, cents.
Babbitt.	12	10.4	33,195	2.46	6.10	3.10	572 19-58	1.52%	0.98 10-16
"	17	8.14	27,403	2.13	5.8	3.6	508 31-54	1.26%	0.86%
"	48	10.2	19,570	2.43	6.8	3.10	342 40-56	1.49%	0.90%
"	62	9.8	27,743	2.28	5.15	3.9	480 41-57	1.36 1-16	1.06 7-16
"	91	10.6½	31,874	2.49%	6.43	4.2	492 62-66	1.44 10-32	1.05 5-16
"	95	8.12½	21,472	2.16%	5.83	3.4	413 2-52	1.27 7-32	0.82 13-16
"	121	10.1½	25,963	2.42%	6.10%	3.7	472 3-55	1.53 1-32	0.89 11-16
Total.	68½	187,801	16,323%	43.½	25.		9,89 23-32	6.43	
Lead lined.	9	9.12	68,982	2.92%	5.1	4.11	919 57-75	1.16 7-16	1.76 1-16
"	15	9.14	60,436	2.98%	6.9	3.5	1,140 18-53	1.50 15-16	1.45 5-16
"	29	9.12	65,783	2.93%	7.	2.12	1,267 38-44	1.61 61	1.51%
"	38	9.8	62,993	2.83	4.14	4.10	849 70-74	1.12 2-16	1.72 14-16
"	68	9.10	65,923	2.86%	5.5	4.5	955 28-69	1.22 3-16	1.06 9-16
"	72	9.9%	68,794	2.87 13-16	6.12%	3.13	963 51-61	1.32 31-32	1.54 27-32
Lead metal.	33	10.1½	40,363	3.02 15-16	7.14%	2.3	1,411 8-35	1.81 27-32	1.30 31-32
Total.	68½	422,207	30.45 10-16	62.8	25.11		9.77%	10.68 4-32	

RECAPITULATION.

Kind of bearing.	Total miles run.	Total weight of bearings when put in, lbs.	Total weight of bearings when taken out, lbs.	Total weight of bearings worn out, lbs.	Average number of miles run per ounce worn out.	Cost of running, cents.	Cost per 1,000 miles, etc.	P. C. saved by using lead 10.
Babbitt.	7,68.5	187,802	16,323%	43.5	25.00	468.98 0.80 1/2	6.43	80224
Lead lined.	7,68.3	422,207	30.45 5 8	42.8	25.5	1,027.25 9.77%	10.68%	223711
								442207

General Railroad News.

ELECTIONS AND APPOINTMENTS.

Dakota Southern.—At the annual meeting in Yankton, D. T., Oct. 26, the following directors were chosen: W. W. Brookings, W. A. Burleigh, J. O. Potter, J. W. Stone, Yankton, D. T.; J. S. Meckling, Sioux City, Ia.; C. G. Wicker, J. H. Wicker, Chicago. The board elected C. G. Wicker, President; W. W. Brookings, Vice-President; J. H. Wicker, General Manager; J. S. Meckling, Superintendent; J. R. Hanson, of Yankton, D. T., Secretary.

Danbury & Norwalk.—At the annual meeting in Danbury, Conn., Oct. 28, the following officers were chosen: President, Roswell P. Flower, New York City; Vice-President, James W. Hyatt, Norwalk, Conn.; Secretary and Treasurer, Harvey Williams, Danbury, Conn.; Superintendent, John W. Bacon, Danbury, Conn.

Erie & Chicago Line.—Mr. D. W. Hitchcock, now of the Chicago, Burlington & Quincy, has been appointed General Agent of this new line between New York & Chicago by the Erie and Baltimore & Ohio.

New York, Providence & Boston.—At the annual meeting in Providence, R. I., Oct. 27, the following directors were chosen: Henry Howard, Coventry, R. I.; Nathan F. Dixon, Westerly, R. I.; A. S. Matthews, Stonington, Conn.; Charles M. Salisbury, Providence; John A. Burnham, Boston; Samuel D. Babcock, D. S. Babcock, Wm. F. Cary, Jr., J. Boorman Johnston, George M. Miller, Henry Morgan, New York.

Eastern.—Gen. S. C. Lawrence has been chosen President pro tem., in place of John Wooldredge, resigned.

Santa Clara Valley.—The organization has been completed by the election of the following officers: President, Henry Bartling; Secretary, Ellis Derby; Treasurer, Reuben D. Colgren. The address of all the officers is San Jose, Cal.

Eastern.—Mr. Trafton Hatch has been appointed Road Master and C. N. Ingalls, Master Carpenter. The office of Chief Engineer has been abolished.

Worcester & Nashua.—Mr. John G. Brady, late of the Nashua & Rochester, has been appointed Master Mechanic.

Camden & Atlantic.—At the annual meeting in Camden, N. J., Oct. 29, the following directors were chosen: Andrew K. Hay, Anthony J. Antelo, W. D. Bell, John Lucas, James R. Dayton, Enoch A. Dougherty, Thomas H. Dudley, Wm. Massey, Charles R. Colwell, Samuel C. Cooper, Wm. C. Allison, George Da Costa. Mr. D. M. Zimmerman was re-elected Secretary and Treasurer.

North Brookfield Branch.—Mr. Bonum Nye, late Vice-President, has been chosen President in place of A. H. Bacheller, resigned. Mr. Alden Bacheller has been chosen Vice-President.

Detroit, El River & Illinois.—At the annual meeting in Logansport, Ind., Oct. 28, the following directors were chosen: George E. Adams, D. D. Dykeman, Logansport, Ind.; James S. Collins, Columbia City, Ind.; D. L. Quirk, E. F. Uhl, Ypsilanti, Mich.; C. T. Buhl, P. D. Buhl, James F. Joy, Allen Sheldon, Detroit; W. W. Crapo, New Bedford, Mass.; Elijah J. Smith, Boston.

Richmond & Danville.—It is stated that Capt. W. H. Greene, lately in charge of the North Carolina Railroad, has been appointed Superintendent of this road.

Mexican.—Mr. Thomas Braniff, long connected with this road, has resigned his position as General Superintendent, and is succeeded by Mr. Edward W. Jackson, who was an engineer on the road during its construction and has been in its service since. Mr. Braniff comes to New York for a time. He is an American, we believe.

Burlington, Cedar Rapids & Minnesota.—Mr. C. J. Ives, late General Freight and Ticket Agent, has been appointed General Superintendent, in place of W. H. Pettibone, resigned. Mr. R. M. Bushnell, who was removed recently by Mr. Pettibone, has been re-appointed Master Mechanic.

Baltimore & Ohio.—Mr. Thomas Meehan has been appointed General Baggage Agent, to date from Nov. 1. His office is at Camden Station, Baltimore.

Cumtland & Pennsylvania.—At the recent annual meeting

the following directors were chosen: Lloyd Aspinwall, Allan Campbell, Wm. H. Nelson, Adam Norrie, Wm. Whitwright.

Northern Pacific.—A circular from Vice-President Stark announces the following changes in the officers of the Minnesota & Dakota Division, which includes all of the road in operation, except the Pacific Division:

Charles W. Mead, General Manager, has leave of absence at his own request, and the position will be held vacant. The offices of Superintendent of Road and Superintendent of Machinery are united, with headquarters at Brainerd, Minn., and Horace A. Towne, now Superintendent of Machinery, is appointed Superintendent, in place of John H. Sullivan, resigned. All persons employed in the working department will be under his immediate orders. Walter S. Alexander, of St. Paul, is appointed General Business Agent, with headquarters at St. Paul, Minn. He will attend to the general local business interest of the Company, and also have charge of the freight and ticket business as heretofore.

Missouri, Kansas & Texas.—Mr. James D. Brown, General Ticket Agent, will, for the present, act as General Passenger Agent also, in place of Mr. Thomas Dorwin, resigned.

Western Maryland.—The new board has re-elected J. M. Hood, President; Alexander Riemann, Vice-President; J. S. Harden, Secretary and Treasurer.

Passenger Conductors' Life Insurance Association.—The annual convention in New York last week elected the following officers for the ensuing year: President, J. W. Seymour; Vice-Presidents, John C. Blood, S. M. Hibbard; Secretary and Treasurer, Joseph F. Culbertson.

Gilman, Clinton & Springfield.—Mr. R. H. Wyckoff has been appointed General Passenger and Ticket Agent.

Gulf, Colorado & Santa Fe.—The new board has re-elected Henry Rosenberg President; Albert Somerville, Vice-President; C. C. Allen, Secretary; M. Kopperl, Treasurer. The address of all the officers is Galveston, Texas.

Raleigh & Gaston.—Major John C. Winder has been appointed Superintendent of this road and the Raleigh & Augusta Air Line, in place of Capt. A. B. Andrews, who recently resigned to take charge of the North Carolina Railroad.

Montclair & Greenwood Lake.—The officers of this company, successor to the Montclair, are: President, Jacob F. Randolph; Vice-President, Smith Ely, Jr.; Secretary, Wm. O. McDowell; Treasurer, H. A. Myer. Mr. Willard Richards has been appointed Superintendent of the road.

Long Island.—Mr. Webster Snyder, at one time General Superintendent of the Union Pacific and recently of the Canada Southern, is reported to have been appointed General Manager. He was connected with the Long Island road a number of years ago.

European & North American.—Mr. B. E. Smith, Trustee in possession of the road, has appointed Mr. Frank W. Cram, now General Freight Agent and Acting Superintendent, General Superintendent. He will also continue in charge of the Freight Department.

Western Railway Construction Company.—The officers of this company are as follows: J. C. Prescott, President and General Manager; Frank M. Cozad, Vice-President and Treasurer; J. O. Sloan, Secretary and Assistant Manager. The office of the company is at No. 57 West Third street, Cincinnati, O.

Federal Creek Valley.—The officers of this company are as follows: President, D. B. Stewart; Secretary, S. N. Hobson; Treasurer, J. Morrow; Chief Engineer, A. W. Wright, Big Run, Athens County, Ohio.

TRAFFIC AND EARNINGS.

Coal Movement.

The following coal tonnages are reported for the week ending Oct. 23:

	1875.	1874.	Inc. or Dec.	P. c.
Anthracite.....	579,355	531,371	Inc. 47,984	9.0
Semi-bituminous, Broad Top and Clearfield.....	28,107	.....	.....	.....
Cumberland.....	50,343	.....	.....	.....
Bituminous, Barclay.....	8,575	.....	.....	.....
" Western Pa.....	33,430	.....	.....	.....
" West Va.....	4,882	.....	.....	.....

The coal traffic of the Pennsylvania Railroad for the second week in October was:

	Tons.
Anthracite.....	25,176
Bituminous.....	61,939
Coke.....	18,751

Total.....105,866

Receipts of coal at San Francisco for the nine months ending Sept. 30 were as follows:

	1875.	1874.	Inc. or Dec.	P. c.
Mt. Diablo, tons.....	109,712	151,166	Dec. 41,454	27.4
Coco's Bay.....	26,722	35,785	Dec. 9,063	27.3
Bellingham Bay and Seattle.....	64,610	15,620	Inc. 48,990	249.6
Roet Mountain.....	53	323	Dec. 270	83.6
Vancouver's Island.....	49,555	39,750	Inc. 9,805	24.6
Eastern Anthracite and Cumberland.....	15,514	16,636	Dec. 1,122	67.6
Australian.....	99,363	77,052	Inc. 22,311	27.9
English.....	40,943	10,608	Inc. 30,335	286.2

Totals.....396,472 348,540 Inc. 47,932 13.8

Only an insignificant part of this comes by rail. The large increase from the Bellingham Bay and Seattle mines is noticeable.

Flour and Grain Movement.

Receipts and shipments for the week ending Oct. 23 are quoted as follows, flour in barrels and grain in bushels:

	1875.	1874.	Inc. or Dec.	P. c.
Flour:				
Lake ports' receipts.....	144,207	150,011	Dec. 5,804	3.9
" " shipments.....	150,472	138,850	Inc. 11,622	8.4
Atlantic ports' receipts.....	230,884	290,294	Dec. 59,410	3.2
Wheat:				
Lake ports' receipts.....	2,721,305	2,052,197	Inc. 669,108	32.6
" " shipments.....	2,591,335	1,174,250	Inc. 1,417,135	120.7
Atlantic ports' receipts.....	1,831,212	1,242,301	Inc. 588,911	51.4
Grain of All Kinds:				
Lake ports' receipts.....	5,136,533	3,765,827	Inc. 1,420,741	37.7
" " shipments.....	4,153,803	2,254,531	Inc. 1,899,272	84.4
Atlantic ports' receipts.....	4,117,304	2,777,280	Inc. 1,340,124	48.2

The movement is very large, now that navigation is about to close. The lake ports' receipts for the crop year (since Aug. 1) now exceed those of last year, but are 20 per cent. less than the exceptionally heavy receipts of 1873, and 12 per cent. less than those of 1872. Of the lake ports' grain shipments for the week, 28 1/2 per cent. was by rail this year, against 16 1/2 per cent. in 1874, and 18 in 1873.

Buffalo grain receipts for the ten months ending Oct. 31 are reported as follows by the Commercial Advertiser:

	1875.	1874.	1875.	1874.
By lake.....	854,842	43,929,857	1,139,799	50,136,221
By rail.....	1,131,300	16,066,430	1,439,311	23,025,029

Totals.....1,986,142 59,996,287 2,579,110 73,161,250

The decrease in flour this year was 24.5 per cent., and in grain 18 per cent. Of the flour 57 per cent. and of the grain 26.3

per cent. came by rail. The shipments for the same period were:

	1875.	1874.
By canal, bushels.....	30,193,870	37,986,867
By rail, bushels.....	12,082,032	9,711,707

Totals.....42,275,902 47,698,574

A decrease of 5,422,672 bushels, or 11.4 per cent. The rail shipments show a considerable increase, in spite of low canal rates. Rail shipments were 28.6 per cent. of the whole in 1875, and 20.4 per cent. in 1874.

Chicago grain receipts and shipments for the week ending Oct. 30 were, in bushels:

	1875.	1874.	Increase.	P. c.
Receipts.....	2,362,624	1,569,480	893,144	56.5
Shipments.....	1,541,435	1,189,523	351,912	29.6

Baltimore flour and grain receipts for October were as follows:

	1875.	1874.	Inc. or Dec.	P. c.
Flour, barrels.....	143,575	200,023	Dec. 56,448	28.2
Wheat, bushels.....	318,832	742,630	Dec. 423,798	57.1
Corn.....	290,640	328,630	Dec. 37,990	20.7
Oats.....	224,222	174,378	Inc. 49,844	28.6
Rye.....	4,625	7,646	Dec. 3,021	39.5

Total, bushels.....1,454,407 2,153,398 Dec. 698,991 32.2

Flour is reduced to wheat in the totals. The large decrease in flour and wheat is notable. The large receipts of rye noted in September have not been maintained, those for October being very small.

Railroad Earnings.

Earnings for various periods have been reported by the following companies:

Year ending June 30:

	1874-75.	1873-74.	Inc. or Dec.	P. c.
Cincinnati, Sandusky & Cleveland.....	\$787,671	\$731,137	Inc. 56,534	7.7
Expenses.....	561,776	533,190	Inc. 28,586	5.4
Net Earnings.....	\$225,895	\$197,957	Inc. 27,938	14.1
Earnings per mile.....	4,135	3,839	Inc. 297	7.7
Per cent. of expenses.....	71.32	72.92	Dec. 1.60	2.2

This statement covers only the operations of the road actually worked, and does not include the rental received for 25 miles of road leased to the Cleveland, Columbus, Cincinnati & Indianapolis.

Year ending Oct. 31:

	1874-75.	1873-74.	Inc. or Dec.	P. c.
N. York, Prov. & Boston.....	\$963,171	\$947,360	Inc. 15,811	2.2
Expenses.....	559,630	563,723	Dec. 4,093	0.7
Net earnings.....	\$403,541	\$383,637	Inc. 19,904	6.5
Earnings per mile.....	14,343	14,035	Inc. 308	2.2
Per cent. of expenses.....	67.80	69.50	Dec. 1.70	2.9

Nine months ending Sept. 30:

	1875.	1874.	Inc. or Dec.	P. c.
Indianapolis, Bloom'gtn & Western.....	\$906,736	\$1,245,903	Dec. 339,167	27.2
Mobile & Ohio.....	1,148,130	1,476,157	Dec. 328,027	22.2
Pacific of Missouri.....	2,104,326	.....	.....	.....
Expenses.....	1,450,551	.....	.....	.....
Net earnings.....	\$653,775	.....	.....	.....
Earnings per mile.....	4,946	.....	.....	.....
Per cent. of expenses.....	68.93	.....	.....	.....
St. Paul & Sioux City and Sioux City & St. Paul.....	\$633,194	\$603,989	Dec. 29,205	11.7

Month of September:

	1875.	1874.	Inc. or Dec.	P. c.
Indianapolis, Bloom'gtn & Western.....	\$135,901	\$154,642	Dec. 18,741	12.1
Louisv., Cin. & Lexingtn.....	119,345	.....	.....	.....
Expenses.....	71,641	.....	.....	.....
Net earnings.....	\$47,744	.....	.....	.....
Per cent. of expenses.....	60.01	.....	.....	.....
Mobile & Ohio.....	\$149,321	\$155,202	Dec. 5,881	3.5
St. Paul & Sioux City and Sioux City & St. Paul.....	77,305	86,743	Dec. 9,438	10.9
Atlantic & Great West'n.....	419,623	416,323	Inc. 3,300	0.8

Two weeks ending Sept. 28:

	1875.	1874.	Inc. or Dec.	P. c.
Atlantic & Gt. Western.....	\$214,877	\$217,570	Dec. 2,693	1.2
Second week of October:				
Cairo & St. Louis.....	\$7,152	.....	.....	.....
Indianapolis, Bloom'gtn & Western.....	32,067	\$34,450	Dec. 2,387	6.9
Missouri, Kan. & Texas.....	72,755	68,952	Inc. 3,803	5.5
St. Louis, Iron Mt. & So.....	105,422	86,190	Inc. 19,232	23.5

Week ending Oct. 8:

	1875.	1874.	Inc. or Dec.	P. c.
Atlantic & Gt. Western.....	\$19,049	\$20,956	Dec. 1,907	9.1
Week ending Oct. 9:				
Grand Trunk.....	\$43,300	\$48,900	Dec. 5,600	11.5
Week ending Oct. 15:				
Great Western.....	\$19,097	\$21,925	Dec. 2,828	12.9
Week ending Oct. 16:				
Grand Trunk.....	\$45,700	\$49,400	Dec. 3,700	7.5

Eric Canal Traffic.

The business at Buffalo from the opening up to Oct. 31 is reported as follows:

	1875.	1874.	Decrease.	P. c.
Receipts of tolls.....	\$684,067 69	\$1,113,976 69	\$429,909 61	38.6
Boats cleared.....	5,526	6,980	1,454	20.8

The canal opened May 18 in 1875 and May 5 in 1874.

PERSONAL.

—Major Josiah Stevens, of Manchester, N. H., General Passenger Agent of the Concord Railroad, died Oct. 26, aged 52 years. He was a prominent Freemason.

—Mr. C. W. Mead, General Manager of the Northern Pacific road, has been granted leave of absence for six months to attend to his private business. Mr. John H. Sullivan, Superintendent of the Minnesota & Dakota Division, has resigned.

—Mr. Sylvester M. Moore, formerly for several years Superintendent of Construction of the Morris & Essex Railroad, died somewhat suddenly at his residence in Newark, N. J., Oct. 26, aged 65 years. At the time of his death he was Superintendent of the construction of the new State lunatic asylum at Morris Plains, N. J.

—Mr. John Wooldredge has resigned his position as President of the Eastern Railroad Company.

—Mr. Thomas Holt has resigned his position as Chief Engineer of the Eastern Railroad. The office has been abolished and no successor will be appointed.

—Mr. W. H. Pettibone has resigned his position as Superintendent of the Burlington, Cedar Rapids & Minnesota Railway, after having been connected with the road for five years.

—Mr. Zeno Secor, for several years a director, and at one time President of the Toledo, Peoria & Warsaw Company, and formerly a well known manufacturer of marine engines in New York, died last week, at his residence in that city.

—Mr. John Taylor Johnston, President of the Central Railroad Company of New Jersey, has been re-elected President of the Council of the University of the City of New York.

—The friends of Mr. E. H. Waldron all along the line of the Cincinnati, Lafayette & Chicago road entertained that gentleman at a dinner at the St. Nicholas Hotel, Lafayette, Ind.,

Oct. 30, on the occasion of his leaving the road to take charge of the Ohio & Mississippi. The affair passed off very pleasantly, and Mr. Waldron received very hearty congratulations on his promotion.

—The Chicago Times says that Mr. Wm. G. Swan will shortly resign his position as General Superintendent of the West Wisconsin to take charge of the freight business of the Chicago & Northwestern road from Chicago to competing points.

—Mr. Nathaniel Hooper has resigned his position as a director of the Eastern Railroad Company.

—Mr. W. W. Crapo, of New Bedford, Mass., a large investor in Western railroads, a director of the Flint & Pere Marquette, the Detroit, Eel River & Illinois and several other companies, has been elected to Congress from the First Massachusetts district to fill the vacancy caused by the death of the former member, Mr. Buffinton.

—A somewhat unusual charge for a railroad man has been undertaken by Mr. James Sharp, General Ticket and Freight Agent of the Utah Central and Utah Southern roads, who recently left Salt Lake on a preaching mission to Great Britain, where he will remain some time. Mr. Sharp is an active member of the Mormon Church, and is a son of Bishop John Sharp, who is not only a prominent officer of that church, but a director of the Union Pacific, the Utah Central and the Utah Southern.

—Col. Thomas Dorwin, for four years past the General Passenger Agent of the Missouri, Kansas & Texas Railway, and well known as a very active and energetic officer, has resigned his position, and will, for the present, reside in St. Louis.

THE SCRAP HEAP.

A Narrow Escape.

The Kankakee (Ill.) Gazette of Oct. 28 says: "The night express for the east on the Cincinnati, Lafayette & Chicago and the lightning mail train for New York came frightfully near being smashed up one night last week. The mail train leaves Chicago at eight o'clock and the Cincinnati, Lafayette & Chicago express at 8:10, arriving at Grand Crossing about the same time. The latter train on the night in question attempted to stop as usual before reaching the crossing, but the air brakes failed of their duty and the train ran over the crossing just an instant before the fast mail dashed by at lightning speed. Only two car-lengths intervened. The fast mail does not abate its speed at crossings or stations." This latter statement is not true. In nearly every State, and certainly in Illinois, the law requires every train to come to a full stop before crossing another railroad at grade. Of course the law is sometimes violated, but it is against orders to violate it.

Refrigerator Fruit Cars.

The San Francisco Morning Call gives a description of a refrigerator car constructed for the transportation of fruit from that city to the East. It is provided with a fan blower, driven by one of the car axles, by means of which the air is driven through ice, which reduces it to a low temperature, and is then distributed among the fruit boxes through a large perforated pipe laid along the bottom of the car. After the cool air has passed among the fruit, it returns to the blower, and is again forced through the apparatus. By this means the atmosphere of the car is kept at the uniform temperature of 40 degrees Fahrenheit. If the experiment succeeds, extensive shipments of grapes will be made to Chicago and other cities.

Fluid Compressed Steel.

At a recent meeting of the British Institution of Mechanical Engineers in Manchester, Sir Joseph Whitworth, Bart., read a paper on "Fluid Compressed Steel and Guns." He did not, he said, propose to enter into the consideration of the various chemical effects produced upon steel, but to confine himself to what had a more immediate and practical bearing upon the application of steel as a constructive material. The difficulty he experienced in obtaining sound ductile steels led him to institute experiments in compressing the steel while in a fluid state. The use of crucible steel for constructive purposes was being rapidly superseded by the metal produced in the Bessemer converter or the Siemens furnace; and, although the crucible steel was yet occasionally specified and demanded on account of its supposed superiority, yet its superior quality, when it existed, would be found to be due to the use of purer and better materials. He exhibited on the table before him specimens of fluid compressed steel, which had a tensile strength of 40 tons per square inch. The power of elongation was of the first importance for some purposes, as in guns, torpedoes, boilers, etc., and wherever severe strains might be suddenly applied; and it was now possible to produce with certainty, by the compression of fluid metal, steel that would bear a strain of 40 tons per square inch, and which elongated 30 per cent. of its length before breaking.

Long Rails.

Ryland's Iron Trade Circular says: "Two of the longest railway rails that have ever been made were rolled at the Britannia Ironworks, Middlesbrough, the other evening, as 'jubilee rails.' The rails were 108 feet and 112 feet long, and were portion of a 40-lb. section, 40 lbs. to the yard. The rails, which are a part of a New Zealand order, were laid in the rail yard for the inspection of those gentlemen who visited the works after celebrating the Railway Jubilee at Darlington, on Monday. Considering the thin nature of the flange of the section of rails, this is considered a marvelous feat in the manufacture of rails. The rails were produced by the celebrated rolling mill, patented by Mr. William Brown, of the London Ironwork Company, Smethwick, near Birmingham."

Prize for not Killing Stock.

The Peoria (Ill.) Transcript says: "It appears that something like a year ago, when Mr. Remington Vornum was General Manager of the Toledo, Peoria & Warsaw road, he promised to give any engineer who would run a year without killing any stock a present of a gold watch. Mr. Reigart completed the task some weeks ago, and the matter having been brought to the notice of Receiver Hopkins, that gentleman said that Mr. Reigart should have the watch, and himself ordered it for him in New York. The watch is a Howard & Co. movement, hunting case, stem winder, of the latest style and design, and is valued at \$250. It was presented to Mr. Reigart through Mr. W. O. Hewett, Master Mechanic of the road. Mr. Reigart is now the oldest engineer in consecutive service on the road, and has the reputation of being one of the best."

OLD AND NEW ROADS.

The Vermont Central Trustees' Accounting.

After all the testimony in the accounting had been taken, the masters held a session at St. Albans last week to hear arguments on the points in dispute. Arguments were made by Hon. Levi Underwood, of Burlington, for the trustees; Col. A. F. Walker, of Rutland, for the bondholders; Hon. C. A. Willard for the Vermont & Canada, Mr. Fife and Judge Poland closing for the trustees. The arguments were very long, and were mainly a recapitulation of the points brought out in the testimony. A large number of requests were filed by counsel for the various parties. The report of the masters, which will be, it is said, a very voluminous document, will be filed in the Court of Chancery some

time this month, so that either party can make the necessary exceptions in time to take an appeal to the January term of the Supreme Court. There is no doubt that such an appeal will be taken by one of the parties in interest.

St. Joseph Bridge.

A meeting was held in St. Joseph, Mo., recently to consider ways of raising the money—\$28,000, gold—needed to pay the coupons falling due Nov. 1. Gov. Hall stated that thus far the earnings of the bridge had not been enough to pay the interest on the bonds. Money had been borrowed, in some cases on the individual notes of the directors, and there was then a deficit of \$13,000 on this account. If the interest was not paid the bridge would be sold and the city's interest lost. The City Council could not legally do anything, and it rested with the citizens, whether the money should be paid. The Kansas City, St. Joseph & Council Bluffs Company would cease to run trains over the bridge, Nov. 9, having given up the lease of the St. Joseph & Topeka road. That company had declined to continue the use of the St. Joseph & Topeka road to Atchison, even free of all rental, because it had a line of its own on the other side of the river, which was shorter. This action would cause a further decrease in the bridge receipts. If the interest was not paid, a receiver would be appointed at once, and the property sold as soon as legal notice could be given.

The Fast Mail Trains.

At the urgent request of the Post-Office Department the night train from Boston over the Boston & Albany roads which connects with the fast mail at Albany, will not be discontinued at present.

The Baltimore & Ohio has arranged a schedule providing for two fast trains between Baltimore and Washington and Cincinnati and Chicago. The time from Washington to Cincinnati, 553 miles, will be 21 hours; to Chicago, 813 miles, 26½ and 27 hours.

Arrangements are being made for a mail train at an increased rate of speed from Washington to New Orleans, by way of Richmond, Danville, Charlotte and Atlanta.

It is said that the Toledo, Wabash & Western has offered to take the St. Louis mail from the Lake Shore fast train at Toledo and put it in St. Louis by 1.10 p.m. the next day, the same time as the Pennsylvania fast train now arrives there. To do this the train must run the 434 miles from Toledo to St. Louis in 14 hours, an average of just 31 miles per hour.

Atlantic & Pacific.

In addition to the default on the rental of the Missouri Pacific road, this company failed to pay the interest due Nov. 1 on the first-mortgage Central Division bonds; the amount of these bonds is \$1,400,000.

In the United States Circuit Court in St. Louis, Nov. 2, Calvin Littlefield filed a bill in equity against the company, asking that a receiver be appointed. The petition will not be resisted, and it is said that two joint receivers will be appointed, one representing the New York and the other the St. Louis interests.

Dividends.

Dividends have been declared by the following companies: Cedar Rapids & Missouri River (leased to Chicago & Northwestern), 1 per cent., quarterly, payable Nov. 1.

Manchester and Lawrence, 5 per cent., semi-annual, payable Nov. 1.

New Bedford, 4 per cent., semi-annual, payable Nov. 1.

Boston & Providence, 4 per cent., semi-annual, payable Nov. 15.

Pennsylvania, 2 per cent., quarterly, payable Nov. 30.

Stony Brook (leased to Boston & Lowell), 3 per cent., semi-annual, payable Nov. 1.

The Brotherhood of Conductors.

The Grand Division of the Brotherhood of Conductors met in annual convention in Atlanta, Ga., Nov. 2. Delegates from 30 subordinate divisions were present, besides all the grand officers. The usual preliminary addresses were made and the preliminary business transacted. The convention was to remain in session until Nov. 5, and then close with an excursion to Florida.

Meetings.

The following companies will hold their annual meetings at the times and places given:

Baltimore & Ohio, at the company's office, Camden Station, Baltimore, Nov. 15, at 10 a. m.

Chesapeake & Delaware Canal, at the office, No. 528 Walnut street, Philadelphia, Dec. 6, at 11 a. m.

Western Counties.

This road is intended to run from the town of Yarmouth, at the extreme southwestern point of Nova Scotia, north by east to Annapolis, the terminus of the Windsor & Annapolis road, with a branch to Digby. The company already has the road completed and the track laid from Yarmouth northward into Digby County, 20 miles, and the line is graded for 24 miles further. Recently a contract has been concluded with a Montreal company, represented by E. W. Plunkett and Walter Shanley, to complete and equip the road, the work to be done by May, 1877. The contractors promise to begin work at once, and say that they will have the road running from Yarmouth to Digby, 60 miles, some time next summer. Mr. Shanley is known as one of the Hoosac Tunnel contractors.

Anderson, Lebanon & St. Louis.

The offices of this company have been removed from Montezuma to Annapolis, Parke County, Ind.

Atchison, Topeka & Santa Fe.

The work of laying track on the extension from West Las Animas, Col., west to Pueblo, was begun Oct. 27. The ties for this section are brought down the Arkansas River from the mountains of Colorado, and the tracklaying has been delayed by their failure to arrive. A full supply is expected about the middle of November, when the work will be pushed forward more rapidly.

New Jersey Southern.

An adjourned meeting of first-mortgage bondholders will be held at the office of Lord, Day & Lord, No. 120 Broadway, New York, Nov. 9, at noon, to consider a plan for reorganizing the company and consolidating with other companies.

Spartanburg & Asheville.

The new line surveyed for the Mountain Division has been adopted, and the final location has been made on that route. The distance is seven miles shorter and the estimated cost \$340,000 less than the former line, though a somewhat heavier grade will be required. The contractors have already begun work on this section.

Peterboro.

At a meeting held in Nashua, N. H., last week, the stockholders voted to increase the capital stock by \$60,000, the proceeds of the new issue to be used to pay off the floating debt. The road was reported in good condition. It is leased to the Boston & Lowell and Nashua & Lowell companies at a rental of 6 per cent. on its cost.

Boston & Providence.

This company has reduced its semi-annual dividend from 5 to 4 per cent., the November dividend just declared being at the latter rate. The announcement brought the stock of the company in Boston from 159, at which it had been selling,

down to 144. The company has very little debt and an extremely profitable property, and besides paying 10 per cent. dividends heretofore it has spent a very large amount from its net earnings in improvements of the road.

Scioto Valley.

The grading and bridging of this road are progressing favorably, the heavier work being all well advanced, and a considerable part of the line from Columbus, O., to Circleville being nearly ready for the ties. The bridge over Walnut Creek, two spans, each of 130 feet, Howe truss, is completed.

Atlantic & Lake Erie.

The Toledo & Pomeroy Construction Company propose to sell \$300,000 temporary construction bonds at 50 cents, in the counties along the line of the projected road. If \$150,000 can be thus raised, it is said that responsible parties have agreed to contribute the necessary additional means to go on with the work. The company is to have the right to take up the temporary bonds at 80, within a year.

Bellaire & Southwestern.

The projectors of this road having failed to secure any considerable amount of subscriptions along the line, as at first proposed, now talk of a new line, to run from Bellaire, O., down the Ohio River to Clarington and thence southwest to Woodsfield. The country is being canvassed on the new line.

Louisville, Cincinnati & Lexington.

The Auditor, Mr. Wm. Mahl, reports as follows for September:

Earnings from passengers.....	\$60,291 44
Freight.....	52,590 06
Express, mail, telegraph, miscellaneous.....	6,503 06
Total earnings.....	\$119,385 16
Working expenses (60.01 per cent.).....	71,641 38
Net earnings.....	\$47,743 78
State tax.....	\$1,451 25
Rentals and guarantees.....	4,891 81
Improvement account.....	590 99
Legal expenses, L. C. & L. E. R. Co.....	656 35
	7,590 40

Net proceeds subject to order of the Court..... \$40,153 38

In the working expenses are included \$9,125.80 for renewal of ties and rails. If this amount is deducted, these expenses were 52.36 per cent. of the earnings.

Chicago, Rock Island & Pacific.

Holders of the mortgage sinking fund bonds of this company are notified, that under a clause in the mortgage, 100 bonds have been drawn and will be paid off and retired Jan. 1, 1876; interest on them will cease from that date. The company is prepared to pay any of the bonds on presentation at the Treasurer's office in New York, with interest to date of presentation. The following are the numbers of the bonds drawn: 131, 220, 291, 293, 351, 394, 484, 592, 594, 597, 713, 742, 763, 794, 893, 912, 921, 1096, 1127, 1180, 1214, 1280, 1300, 1391, 1400, 1545, 1637, 1716, 1793, 1800, 1893, 1898, 2327, 2597, 2677, 2788, 2792, 2849, 2877, 2893, 2897, 3000, 3003, 3207, 3261, 3273, 3276, 3283, 3395, 3400, 3500, 3508, 3601, 3975, 4099, 4191, 4244, 4297, 4501, 4546, 4604, 4788, 4877, 4893, 4894, 5000, 5064, 5066, 5069, 5142, 5501, 5628, 6046, 6184, 6203, 6353, 6387, 6601, 6699, 6704, 6802, 6840, 7150, 7206, 7264, 7362, 7410, 7602, 7634, 7910, 7970, 8105, 8129, 8203, 8302, 8408, 8579, 8699, 8707, 8766.

Amsterdam Prices.

Prices on the Amsterdam Exchange Oct. 19 were reported as 82½ (gold) for Illinois Central shares, and 88½ for its 6 per cent. redemption bonds, 85 for Rock Island shares, 42½ for Chicago & Northwestern preferred shares, 74 for its consolidated mortgage bonds; 82 for Fort Wayne shares; Erie shares, 12½ to 13; Michigan Central shares, 57; Central Pacific 6s, 89 3-16; Union Pacific Southern Branch 6s, 94 to 94½; Missouri, Kansas & Texas 7s, 38½; Atlantic & Great Western Ohio Division 7s, 74½; St. Paul & Pacific 1st section 7s, 38; do. 2d section 7s, 14½ to 15½; do. consolidated 7s, 22; do. issue of 1869, 8½ to 9; do. Vincent and Brainerd extensions, 5 to 5½; Toledo, Peoria & Warsaw 7s, 26; Marietta & Pittsburgh 7s, 46½; do. consolidated, 20; Denver Pacific 7s, 64½; Atlantic, Mississippi & Ohio 7s, 29½ to 30½; Cleveland, Columbus, Cincinnati & Indianapolis shares, 58½; Baltimore & Ohio shares, 150; Denver & Rio Grande 7s, 45 to 45½; West Wisconsin 7s, 36; Milwaukee & St. Paul preferred shares, 64.

Pacific, of Missouri.

In pursuance of the recommendation of the committee, the Atlantic & Pacific Company offers for sale at 75 the \$1,854,000 Missouri Pacific third-mortgage bonds which it owns. The proceeds will be used only to liquidate the floating debt. Missouri Pacific stockholders will have the preference in purchasing the bonds up to Nov. 10. The second-mortgage bonds are selling at 62.

Mr. H. Rechten, Treasurer of St. Louis County, has filed a petition in bankruptcy against the company on account of the non-payment for four months of the interest on the \$700,000 St. Louis County bonds, issued to the road in 1865. The petition alleges that the third mortgage for \$4,000,000, made in July last, was intended to give preference to certain of the creditors, the company being in fact bankrupt at the time.

A meeting of the unsecured creditors was held in New York, Nov. 2, to consider the situation. The following questions were submitted to Gen. Clinton B. Fisk, who represented the Atlantic & Pacific Company at the meeting, and who promised to answer them fully at an adjourned meeting.

1. For what purpose and by what authority were the loans of \$1,500,000, \$2,000,000 and \$4,000,000 made; how were the bonds disposed of and when; what sums have been realized thereon, and how has the money been expended, and by whom are the bonds now held, so far as known?

2. To whom is the company indebted, for what and in what amount?

3. What provision do you propose to make for the payment of the claims of the unsecured creditors?

An adjourned meeting of bondholders and stockholders was to be held in New York, Nov. 4.

The lessee failed to pay the interest on the third-mortgage bonds which became due Nov. 1. It also failed to pay the interest due on \$1,183,000 of its own first-mortgage Central Division bonds, which became due on the same date.

Chesapeake & Ohio.

A circular from the Secretary announces that the interest which became due Nov. 1 will not be paid; it also states that the plan for funding the interest on the bonds has failed, owing to the fact that the required number of bondholders have not given their assent and also that the depressed condition of business for the last two years would prevent the company from carrying it out by resuming payment of interest as promised, Nov. 1, 1875.

The United States Circuit Court at Richmond has given its decision rejecting the petitions for the appointment of Vice-President Wickham or Mr. Isaac H. Carrington as Receiver, and has made an order appointing Mr. Henry Tyson permanent Receiver.

Considerable exception is taken to this decision. It is said that holders of \$23,000,000 of the debt were in favor of Mr. Wickham's appointment, and it is charged that the foreclosure suit and the appointment of Mr. Tyson are moves made in the Baltimore & Ohio interest. On the other hand it is claimed that the foreclosure suit is in the interest of the first-mortgage

bondholders and that the greater part of the petitioning creditors were stockholders, second-mortgage bondholders and floating debt creditors whose interest it is to oppose a foreclosure of the first mortgage and to retain their hold on the property as long as possible; that Mr. Tyson's connection with the Baltimore & Ohio is not such as would in any way bias his official action, being really a thing of the past; that a change of management is in every way desirable, and that the foreclosure suit was necessary to prevent the interests of the first-mortgage bondholders from being sacrificed to benefit the subordinate creditors.

There is some local feeling in the matter, the Richmond papers representing the appointment as being made in the Baltimore interest, with the intention of having the road so managed as to discriminate against the Virginia tow and especially Richmond, and to divert the traffic of the road to Baltimore.

Mr. Tyson is a gentleman of character and ability, and there is no reason to suppose that he will not administer the receivership fairly and uprightly in the interest of the parties whose rights in the property the office is created to protect.

Lake Erie, Evansville & Southwestern.

It is said that work will be resumed on this road at once, the means necessary to extend it from Boonville, Ind., to Huntingburg having been secured. The estimated cost of the extension is \$384,000.

Palisade & Eureka.

The track is now laid to the southern terminus at Eureka, Nev., its arrival there causing great rejoicing. It is of three-foot gauge and extends from the Central Pacific at Palisade, Nev., southward to the mining town of Eureka, the center of an extensive mining district. It is about 90 miles long, and is chiefly owned by the Messrs. Mills, of San Francisco, and Senator Sharon, of Nevada.

Atchison & Southern.

Meetings are being held to advocate the construction of this projected narrow-gauge road, which is to run from Atchison, Kan., southwest through Alma, Holton, Council Grove and St. Mary's.

Groversville & Northville.

Work is progressing rapidly on this road, which is an extension of the Fonda, Johnstown & Groversville, from Groversville, N. Y., northeast to Northville. The track is laid to Cranberry Creek, 14 miles from Groversville, and freight trains are running to that point.

Keokuk & Kansas City.

An attempt to place \$2,500,000 bonds of this company in England does not seem to meet with favor, the London Times denouncing it strongly. The projected road is to extend from Keokuk, Ia., southwest to the Missouri River at Glasgow and thence west, on the south side of the river, to Kansas City. Some three years ago the company succeeded in getting some considerable subscriptions from counties on the line, with which some grading was done and 15 miles, from Glasgow to Salisbury, ironed and provided with a small equipment.

Burlington, Cedar Rapids & Minnesota.

A dispatch from Des Moines, Ia., says that in the United States Circuit Court there, Oct. 30, a decree of foreclosure was granted at the suit of the bondholders under various mortgages. The decree includes not only the main line, but the Milwaukee, the Pacific and the Muscatine divisions. The order of sale directs that the sale under the decree shall take place at Cedar Rapids, Ia., some time next month.

Davenport & St. Paul.

In the United States Circuit Court at Des Moines, Ia., Oct. 30, a decree of foreclosure of the first mortgage was entered and an order made for the sale of the property. No opposition was made to the application for a foreclosure.

Cartersville & Van Wert.

At the last term of the United States Circuit Court at Atlanta, Ga., the suit of Henry Clews & Co. against this company was referred to a special master to take testimony and report. The master filed a report at the opening of the present term which set forth that \$167,431.70 was due to Clews & Co. on account of bonds and of money advanced for the construction of the road. Exceptions were taken, but the Court, Oct. 30, rendered a decision sustaining the report.

Rensselaer & Saratoga.

A new line is to be built through the village of Saratoga, which will avoid the heavy grade of the present line. It is proposed to build the new track commencing near the site of the freight house, and running on a grade with the Adirondack road, east of the present track, to a point near Glen Mitchell, where it will join the present line.

Baltimore, Philadelphia & New York.

Walter Scott, a contractor, has brought a suit to recover \$14,000 due him for grading and bridging three miles of the road near Towson, Md., and all the property has been attached. The work was begun some two years ago, the road being a revival of an old project for a line from Baltimore to Philadelphia, on which some work was done as long ago as 1858.

Baltimore & Ohio.

The following order has been issued, bearing date Oct. 29: "On and after Nov. 1, 1875, Keyser will be constituted a division station, the eastern terminus of the Third and the western terminus of the Second Division.

"Second Division engines with empty hoppers and gondolas will deliver them at Piedmont, and get coal trains in accordance with the orders of the Agent at Keyser.

"Locust Point will be constituted the eastern terminus of the First Division. First Division freight engines with Locust Point trains will deliver them on the side tracks at Locust Point and return to Riverside engine station.

"Engines with live stock and trains for Mount Clare or Camden Station will deliver them at Mount Clare Station.

"Engines from Riverside engine station will be dispatched from Locust Point under the direction of the Locust Point Agent."

The Baltimore Gazette of Nov. 1 says: "In accordance with the terms of the new railway combination, the particulars of which are given above by telegraph from New York, the Baltimore & Ohio Company has had prepared by its General Ticket Agent, Mr. L. M. Cole, a new schedule of through passenger rates from Baltimore and Washington, which goes into effect to-day.

"The schedule shows the following changes: From Baltimore and Washington to Chicago, \$17.50 (formerly \$19.50); to Cincinnati, \$13.75 (formerly \$15.25); to Columbus, Ohio, \$12 (formerly \$14); to St. Louis, \$21.50 (formerly \$23.25); with a reduction of \$2 each to Indianapolis and Louisville. For all points in the Northwest where tickets read 'via Cincinnati and Chicago,' \$3.75, instead of \$4.25, is to be added to the given rate. There are also other less important changes."

The new round-house at Riverside is now completed and in use. It holds 44 engines. There is a large machine shop adjoining.

Delaware Shore.

The work of laying track was begun last week at the junction with the West Jersey Railroad at Woodbury, N. J., and it is expected that the road will be completed by the end of the year.

It is to run from Woodbury southwest parallel and near to the Delaware River to Penn's Grove. It will be eventually extended to Salem.

European & North American.

The land-grant bondholders at their adjourned meeting agreed to adopt the report of the conference committee, which was in substance as follows:

1. That, with the consent of the land-grant and Western Extension bondholders, the trustees under the consolidated mortgage take possession of the road and work it, devoting the net earnings to the payment of such debts as must be paid to prevent sacrifice of property and the balance to payment of interest on the bonds in the order of their priority.

2. That a committee of land-grant bondholders be appointed to see that the contract is carried out and to apply to the courts to enforce it, should it be violated.

3. That coupons enough be funded to pay for the depot grounds and the \$100,000 Bangor & Piscataquis notes, the committee to hold \$200,000 Bangor & Piscataquis second-mortgage bonds as security. No steps towards a foreclosure to be taken as long as the trustees in possession conform to the agreement.

This plan was to be submitted to the floating-debt creditors by their committee.

In accordance with the agreement Mr. B. E. Smith, of Columbus, O., surviving trustee under the consolidated mortgage, took formal possession of the road Oct. 27.

New Brunswick.

The extension from the late terminus at Florenceville, N. B., northward up the valley of the St. John, is now completed to Tobique and trains will soon be running to that place. The bridge across the St. John is nearly completed.

Keokuk & Hamilton Bridge.

The superstructure of the bridge over the slough in the eastern approach to the main bridge over the Mississippi at Keokuk, Ia., is to be renewed at once. The work will be done so as not to interrupt travel. Arrangements have also been made to put down new steel rails on the main bridge and approaches, in place of the present iron ones.

Sonoma & Marin.

The contract for building the tunnel through the Puerto Suello has been re-let, this time to M. W. Connolly and J. B. Hinkle, of Petaluma, Cal. The tunnel will be 1,100 feet long, 12 feet 8 inches in the clear at the bottom and 16 feet high, and is to be completed by July 9, 1876. It will cost about \$100,000. The new contractors have already 120 men at work.

West Wisconsin.

A brick building for the general offices of the company is being erected at Hudson, Wis. It is 75 by 57 feet with two stories and an attic and is of handsome design.

The engine house on the North Wisconsin road at New Richmond, Wis., was destroyed by fire on the morning of Oct. 24, together with a West Wisconsin engine which was in it at the time.

Federal Creek Valley.

Mr. A. W. Wright, Chief Engineer, informs us that 12 miles of this road is now graded ready for the iron. The company expects to lay the track this fall.

The road, which is to open up a coal and iron district, leaves the Marietta & Cincinnati near Big Run, O., and follows Federal Creek about five miles, then runs by way of Sharp's Fork into the Valley of the Muskingum River, connecting with the Cincinnati & Muskingum Valley road at Moxahala. Its entire length will be about 30 miles.

Lafayette, Bloomington & Mississippi.

The Indianapolis Journal says: "It is understood that this road is to pass out of the management of the Toledo, Wabash & Western road, and is to be operated by the company that owns it."

The road is the Illinois end of the Bloomington Division; the Lafayette, Muncie & Bloomington is the Indiana section. The two together are 118 miles long, from Lafayette, Ind., west to Bloomington, Ill. An attempt was made to cancel the leases of both some time ago. They have always been unprofitable to the lessee.

New Jersey Midland.

The offer of the South Mountain & Boston Company to purchase this road has been modified in one respect, that company now proposing to deposit \$300,000 in United States bonds as security for its fulfillment of the contract, in place of the \$600,000 South Mountain, of Pennsylvania, bonds which it offered to pledge as security at first.

Philadelphia & Reading.

In the United States Circuit Court, Philadelphia, last week, Judge McKennan delivered an opinion in the suit in equity of the Adams Express Company vs. the Philadelphia & Reading Railroad. This suit was brought in the name of President Dinwiddie and of the Express Company as well, the bill averring that it is a joint stock association, composed of more than seven shareholders, formed July 1, 1851, in the State of New York, by certain written articles, duly executed by the parties thereto under the laws of the State of New York, and the Court was asked to restrain the Reading Railroad Company from engaging in or carrying on the independent express business, or collecting, transporting and delivering express matter beyond the termini and to and from the stations of the road.

The bill was demurred to, on the ground that it neither averred that the joint stock company or association styled the Adams Express Company was a corporation, nor that the members were citizens of the State of New York or of some other State than Pennsylvania, and on the first of these reasons the Court sustained the demurrer and dismissed the complainant's bill. The matter has been pending in the Circuit Court since the 2d of October, 1872, and has been several times, in one shape or another, under consideration.

Detroit & Bay City.

The Boston Advertiser says that default was made on the interest due Nov. 1 on \$1,906,000 8 per cent. mortgage bonds of 1902 of this company. The interest on \$424,000 8 per cent. mortgage bonds, which are guaranteed by the Michigan Central, was duly paid.

The road is about three years old, and is 100 miles long, from Detroit, Mich., north by west, to Bay City. It is worked by the Michigan Central, and is known as the Bay City Division of that road.

Springfield, Jackson & Pomeroy.

The contract for the entire construction of this road ready for the rolling stock was awarded Oct. 21 to the Western Construction Company of Cincinnati. The work will be commenced at once. The line is to extend from Springfield in Clark County, O., southeast to Jackson, in Jackson County, a distance of 105 miles. The road is to be of three-foot gauge.

The terms are stated to be \$1,222,000, or about \$11,633 per mile, 50 per cent. to be payable in cash, 40 per cent. in first-mortgage bonds and 10 per cent. in stock. The road is designed to reach the coal fields of Jackson County.

New York & Oswego Midland.

Two engines and a passenger car on the Utica Branch were seized for unpaid taxes on the road by the Utica City tax collector Oct. 28. The seizure stopped the running of trains for a

day and caused considerable inconvenience. Subsequently arrangements were made to run trains as usual. The property seized was advertised to be sold Nov. 5.

Ozage Valley & Southern Kansas.

Suit has been begun on behalf of the State of Missouri to recover \$304,604 unpaid taxes on this road for five years ending with 1875.

Tyler Tap.

The grading of the second section of 10 miles has been let to G. W. Humphrey. The road is to be pushed to completion from Tyler, Tex., as far north as the crossing of the Texas & Pacific, at least.

Glilan, Clinton & Springfield.

The Illinois Supreme Court has affirmed the decision of the McLean County Circuit Court in the Kelly suit that the stock issued to the Morgan Improvement Company is illegal and must be canceled. The Court holds that while the contract with the Morgan Improvement Company was not fraudulent in the first place, yet it was illegal for a director of the railroad company to become a member of the Improvement Company, and that the disposition of the stock was such as the directors could not rightfully make and the Circuit Court properly decreed that it should be canceled. The approval of the contract by the stockholders is no bar to the relief sought.

The Court says: "No reason is perceived why the Court did not discharge the Receiver, nor do we understand what necessity existed in the first instance for appointing one. A Receiver should never be appointed in a case like this, except for the gravest reasons, where it may be imperatively necessary, to preserve the property for the benefit of those most interested. Courts should hesitate to take the management of railways out of the hands of the directors elected by the stockholders, and in such matters they should always proceed with great caution."

"The Court in its decree directed the Master in Chancery to give notice of an election of a new board of directors by the bona fide stockholders, excluding the stock owned by the Morgan Improvement Company. On the election of the new board of directors it will be the duty of the Court to discharge the Receiver, if it has not already done so, first requiring him to account to the new board for any funds that may be in his hands belonging to the company."

"The omission of the company to discharge the Receiver has not been assigned for error."

Atlanta & Richmond Air Line.

In the United States Circuit Court at Atlanta, Ga., Oct. 29, in the suit of Wilmer and others, bondholders, the Court granted a decree of foreclosure of the first mortgage and made an order to the trustees to sell the entire line from Atlanta to Charlotte, N. C., 265 miles. The first-mortgage bonds outstanding amount to \$4,248,000, on which there are \$700,000 unpaid coupons. The controlling interest in the stock belongs to the Pennsylvania Railroad Company, which also holds a large amount second-mortgage bonds.

In the Georgia Superior Court, Oct. 30, Mr. Garner, who has laid claim to the road in Georgia under a sheriff's sale for debt, came into court and made a formal disclaimer of any title to the same. The Pennsylvania Railroad Company petitioned to be made a party to the suit and also asked the Court that Col. L. P. Grant, who was appointed Receiver in Georgia in the Garner suit, be retained as Receiver. The Court denied the request and ordered Col. Grant to vacate at once, allowing him, however, a reasonable time to settle with employees and connecting roads.

This action, together with the decree of sale, makes it certain that Mr. John H. Fisher, who was some time ago appointed Receiver by the United States Court on petition of the bondholders, will be put in possession of the road at once.

Hartford, Providence & Fishkill.

The permanent repairs of the damage done to the western end of this road by the floods of last August have been completed; their cost has been about \$27,000. About 1,000 tons of steel rails have been put in the track this year, and the main track is now all of steel from Hartford to East Vernon. It is estimated that the gross earnings of the road for the year will be about \$1,000,000, or \$160,000 above all expenses.

Hoosac Tunnel Line.

The Railroad Commissioners recently made their official inspection of the Tunnel and State road. The new work was found to be progressing well. The bridges were all found in good condition except one at Bardwell's Ferry, which is to be replaced with a new one.

The rebuilding of the State railroad upon the new location is being done in an unusually substantial manner, the masonry being of the most substantial kind, the bridges good and the road-bed solid and carefully made. Indeed, complaint is made that the State is spending an unnecessarily large amount upon the work and making a better road than there is any occasion or demand for.

Springfield & New London.

No final arrangements have been made as to working or leasing this road when completed, but the directors have made proposals for a lease to the Connecticut Central, of which road it is the Massachusetts end. These proposals are now under consideration, and it is thought they will be accepted. The terms of the proposed lease provide for a rental which will pay a small dividend on the stock, and also leave the company free to make connections with other roads, should it have opportunities to do so hereafter; that is, the Connecticut Central will have the use of the track at a fixed rent, subject to the right of the New London Northern Branch and the Providence & Springfield to acquire a like use of the track, provided either or both of those roads should be built.

Eastern.

The Eastern Railroad Company, if we are to judge from the talk of a director who has recently resigned, is now suffering from the results not only of a too rapid extension and of too great expenditures upon improvements of the road, but from an almost incredible looseness of financial management. He charges that the President, the Finance Committee and the members of the board were alike ignorant of the real condition of the company until very recently; that the accounts were very loosely kept; that the station agents' books had not been examined in two years, and that free passes were given away to any one and every one who asked for them, no less than 2,100 annual passes being out, while from 250 to 300 trip passes were sometimes issued in a single day. He makes no charges of fraud, but of excessively loose and careless management, which is almost as bad, so far as the result to stockholders is concerned.

Erie.

All the arrangements having been completed, the new line to Chicago by way of the Erie to Salamanca, Atlantic & Great Western to Cleveland, Cleveland, Columbus, Cincinnati & Indianapolis to Shelby Junction, and Baltimore & Ohio to Chicago, commenced running Nov. 1. Two through express trains are run daily, leaving New York at 9 a. m. and 7 p. m., Chicago at 9 a. m. and 5:15 p. m. Through Pullman cars are run on both trains, the night train having a hotel coach attached.

Under the agreement there will be no competition between the two companies for New York traffic and tickets from New York to Chicago will be sold by the new line, unless a passen-

ger specially desires to go by way of Baltimore. The new line is known as the Erie & Chicago Line. The first train from New York, we are told, had a goodly number of passengers.

Burlington & Northwestern.

Contracts have been let for the grading from Mediapolis, Ia., to the Des Moines County line. Six miles were let to J. H. Arel, two miles to N. G. Young, and three miles to Wm. Kelley, the work to be finished by Dec. 1. Chief Engineer Cameron is authorized to let the rest of the grading to Winfield.

Canadian Railroad Returns.

A dispatch from Ottawa, Canada, says:

"The Minister of Public Works, in accordance with the power taken in the Railway Act of last session, has caused arrangements to be made for procuring full and complete returns from the various railway companies in the Dominion. The returns will be tabulated and published in blue-book form, and will be preceded by a complete and accurate railway map of the Dominion. The first volume is expected to be ready to be laid before Parliament at its next sitting. It will give the state of the capital accounts, with details of stock and the nature of the bonded and other debts, with the authority by which all legalized issues have taken place; cost of roads and of equipments; character of bridges (iron or wood) and width and number of spans of each structure; a full account of the various kinds of rolling stock; description of stations, junctions, crossings, tables, grades and curves; operations of the year in miles run; the several classes of trains run and the speed; volume of freight; fares showing rate per mile; number and nature of casualties; list of directors, and of the several leading officials; and of similar information. This arrangement will be of the first importance to commerce, and will supply a want long felt of exact data in regard to our great railway interests."

Jamesville & Washington.

It is stated that this road has changed hands, and that the new owners intend to complete it at once from the present terminus, 10 miles south of Jamesville, to Washington, N. C.

Pennsylvania.

Sealed proposals will be received by Mr. Wm. H. Brown, Engineer of Maintenance of Way, until Nov. 20, 1875, for furnishing this company with 150,000 cross ties, delivered on the wharf at Tacony, near Philadelphia.

Before any contract will be awarded, the successful bidders will be required to execute a bond, with approved sureties, for the faithful performance of the contract.

Proposals will be received for the whole number or any part of the above.

Specifications can be obtained at office, No. 233 South Fourth street, Philadelphia.

The board of directors at its last meeting declared the new usual quarterly dividend of 2 per cent., which is made payable Nov. 30.

The Pullman Sleeping Car Patents.

Chicago dispatches say that there will be a suit for the infringement of one of these patents by the Wagner Company. It appears that the latter company uses an upper berth arrangement covered by the patents owned by the Pullman Company for which it pays a royalty of \$5,000 per year, having in return the right to use the same anywhere east of Buffalo. Now that the Wagner cars are run through to Detroit and Chicago, a suit will be brought for infringement and to restrain the company from using its cars in Michigan.

Indianapolis, Cincinnati & Lafayette.

It is stated that holders of nearly \$1,200,000 out of the \$1,439,200 funded-debt bonds have assented to the proposal made in the annual report to exchange them for preferred stock, and that it is probable that the assent of the rest will be obtained without difficulty.

A large party of stock and bondholders will shortly make an excursion over the line with the view of inspecting its condition and forming some idea of its business and prospects. Most of them are from Boston and vicinity.

It is said that negotiations are on foot for a purchase or long lease of the Cincinnati & Martinsville road, now worked under a temporary agreement. This road runs from Fairland, Ind., west by south to Martinsville, and is 39 miles long.

Indianapolis, Bloomington & Western.

The Indianapolis Journal says: "A few of the employees of this road have become impatient, and have petitioned the De Witt County (Ill.) Court to instruct the Receiver to devote all surplus earnings, after paying current expenses, to paying off arrears due the employees, instead of using the excess in improving the road-bed and equipments. The Receiver, in answer to this request, is preparing a full and careful statement of the condition of the road and its equipments were in when they came into his hands, and will endeavor to show that he has not expended one dollar that the necessities of the case did not demand. The road was in such condition that accidents were of daily occurrence, passengers shunned the line, and it was unsafe to run trains over it at the speed of even freight trains, and but for the prompt steps he took the road, its equipments and its business would have gone to destruction."

Union Pacific.

The appeal from the decision of the Court of Claims was argued before the United States Supreme Court last week. The question involved is whether, under the charter of the company, the United States should retain the whole or only half of the amounts due for the transportation of mails and other Government freight over the road, to be applied on account of the interest on the subsidy bonds issued to the company. The Court of Claims decided that the charter only provided for the retention of one-half of the money due, and gave judgment in favor of the company for \$512,632.50, the amount already withheld. The Attorney General took an appeal to the Supreme Court.

Pueblo & Matamoros Isucar.

The Two Republics of Oct. 6 says that a party had arrived in the city of Mexico to make a preliminary survey for this proposed railroad.

Cincinnati Southern.

In the matter of the application for a writ of mandamus to compel the Auditor of Hamilton County, O., to put upon the tax duplicate the special tax levied in Cincinnati to pay the interest on the Southern Railroad bonds, the Supreme Court of Ohio, after hearing arguments, Oct. 25, overruled the objections taken to the form of the writ and extended the time for putting in an answer to Oct. 30.

In his answer as filed the Auditor claims that he cannot legally put the tax in question on the grand list for several reasons. He claims that the ordinance levying the tax was not properly approved by the Mayor before it was certified to the Auditor; that the City Council has no power to order the Auditor to put any tax on the list unless it is certified to him before June 1; that the Council has no power to levy and the Auditor no authority to put on the list any tax for city purposes (excluding schools) greater than 16 mills on the dollar; he denies the legal appointment of the trustees of the road and the issue of the bonds to bona fide holders. He denies that the bonds were issued before the passage of the law limiting municipal taxation, and says that he has not refused to put any legal tax on the list.

The question of legality of the issue of the bonds has been

once passed upon by the Ohio Supreme Court, but it will be seen that some questions of importance to the holders of the bonds are involved in the present suit.

San Francisco & North Pacific.

A force of 500 men is employed on the construction of the branch from Fulton, Cal., to Guerneville, which is about 17 miles long. A large force is employed on the piers for the Russian River Bridge, which will be 45 feet above the river and 200 feet long. There is another bridge at Green Valley 126 feet long, both being built of Oregon pine. The track has been laid for 8½ miles from Fulton, and the work is being pushed, the intention being to have it done before the rainy season begins.

Oakdale & Sonora.

Arrangements are being made to build a railroad from Oakdale, Cal., the terminus of the Stockton & Visalia road, to Sonora in Tuolumne County.

California Pacific.

The new branch northward to Colusa and Tehama is graded for 15 miles from the junction with the main line at Woodland, Cal. About 50,000 ties have been delivered on the road, and the first lot of rails has been received. Tracklaying was to be begun this week.

The Granger Cases.

The first of what are known as the "Granger cases," the appeal of the Winona & St. Peter Company from the decision of the Minnesota Supreme Court, holding it subject to the provisions of the law of 1871 regulating rates, came up in the United States Supreme Court last week. The case was argued by Judge Lawrence, of Chicago, and Mr. B. C. Cook, for the company, and W. P. Clough, of St. Paul, for the State. The Wisconsin railroad cases were to follow, and there is also an appeal of the Chicago, Burlington & Quincy from the Iowa courts, to be heard. These cases are all governed by the same general principles, and are regarded as test cases. The decision of the court will probably not be known for some time.

Harrisburg & Potomac.

An extension of the Petersburg Branch, which is now partly graded, has been surveyed by way of Deardorff's Mill, Abbotstown and a gap in the Pigeon Hills to Red Hill, three miles from Hanover, Pa., on the Hanover Junction, Hanover & Gettysburg road. Another branch to East Berlin and Wellesville is to be surveyed.

The Railroad Mail Service.

A general re-weighing of the mails carried by the various railroad routes has been ordered, and was begun Nov. 1. According to law, the weights will have to be taken for 30 days, and the average for that time will be the amount paid for until the next re-weighing. The present order was made necessary in order to re-adjust the payments made to the various lines in accordance with the changes made since the last mail trains were put on.

Massachusetts Central.

There is talk of building a railroad from Westfield, Mass., through Otis, Monterey and Great Barrington to Boston Corners, N. Y., where it would connect with the New York & Harlem, the Poughkeepsie, Hartford & Boston, and the Rhinebeck & Connecticut roads. Surveys of the line have been made. It will be an extension of the Massachusetts Central.

Connecticut Western.

The Springfield (Mass.) Republican says: "The Connecticut parties interested in the extension of the Western road to Springfield are now ready to go ahead, and agree to build the road to the State line northward, if Springfield will take it up there and bring it into the city. To do the latter will cost from \$200,000 to \$250,000. What patriotic, plethoric pocket will invest this sum in Springfield's growth and glory?—and, by-and-by, get back its own with interest? For this link of road can well be made to pay its reasonable cost."

New York, New Haven & Hartford.

It will be remembered that last winter this company and the New Haven & Northampton refused to receive the cars of the through freight lines from the Boston & Albany unless local rates were paid over their lines from Springfield or Westfield to the point of destination. The reason given was that the *pro rata* share of the through freight rates coming to them was so small that it did not pay them to haul the cars. A new and satisfactory arrangement has now been made, and both companies resumed the through business Nov. 1.

Central, of New Jersey.

A general reduction of 10 per cent. in the salaries of employees has been ordered.

The cutting through Bergen Hill on the Newark & New York Branch is nearly ready for the second track, which is already laid through a good part of its length.

Central, of Iowa.

The dispatches which announced the decree of foreclosure and sale of this road last week were not quite correct. It appears that the master's report showed that holders of \$2,372,500 out of \$3,700,000 first and \$716,000 out of \$925,000 second-mortgage bonds had assented to the plan of reorganization proposed by the joint committee. The Court held that under the deeds of trust the majority should dictate, and ordered a foreclosure and sale to carry out that plan. The decree authorizes the trustees to bid for the property and to acquire the full title thereto, and then to reconvey it to the new company to be organized in accordance with the agreement submitted by the committee. The committee state that all necessary steps will be taken and the compromise agreement, as proposed by the bondholders, will be carried out.

Columbus & Toledo.

Contractors are now at work on the grading of 42 sections. The piers for the iron bridge at Columbus are to be done by Dec. 1, when the superstructure will be put up. A contract for steel rails has been let to the Cleveland Iron Company, and negotiations for the iron rails are now in progress. Preparations are being made to build the high bridge and long trestle at Delaware. Mr. W. T. Cavanaugh, who has charge of the masonry, has several gangs at work near Delaware. Contracts have been let for 100,000 ties, which are now being gotten out.

Denver & Rio Grande.

It is said that work will soon be resumed on the extension from Pueblo, Col., southward and will be continued until the road reaches Trinidad, 100 miles from Pueblo. The object is to reach the great coal fields of the Raton Mountains, which extend from Trinidad to the Chuchas, 40 miles, along the line of the road. The work on the 60 miles from Pueblo to the Chuchas will be begun in November. Of this section, about 40 miles was graded nearly two years ago, and but little labor will be required to make it ready for the rails.

Delaware & Bound Brook.

In the matter of the application for an injunction to stop the building of the bridge over the Delaware at Yardleyville, the bill came up for argument before the Chancellor of New Jersey Oct. 26, when the hearing was postponed to Nov. 13.

Columbus, McArthur & Gallipolis.

The Michigan & Ohio Company has offered to take the partly completed road-bed of the projected line and to complete it from Columbus, O., to Gallipolis, provided the right of way and local subscriptions to the amount of \$5,000 per mile are secured. It is not probable that the offer will be accepted unless the

Michigan & Ohio can demonstrate, more satisfactorily than it has heretofore done, its ability to carry out the contract.

Phillipsburg, Farnham & Yamaska.

The rails for this road are now arriving at Montreal from England, and it is proposed to have the first section southward from the Grand Trunk at St. Hyacinthe, P. Q., to St. Pie, 10 miles, completed by the close of the year. A locomotive and some cars are being built by the Canada Engine Company at Kingston.

Texas & Pacific.

The company having agreed to complete the Trans-continental Division to Paris, six or seven miles east of the terminus of the completed western section, provided the people of that town would subscribe for \$60,000 of the bonds of the road at \$2, the necessary amount was raised in a short time. It is said that the work will be done within a month. Vice-President Bond has also offered to complete the main line to Fort Worth this year, provided \$400,000 of the bonds are taken along the line, but it is not thought at all likely that that amount can be raised.

Jacksonville, Pensacola & Mobile.

In the United States Supreme Court, Oct. 29, the case of the State of Florida against Anderson and others, appeal from the Circuit Court, was argued. The State holds \$3,000,000 first-mortgage bonds on the Florida, Atlantic & Gulf Central, the Pensacola & Georgia and the Tallahassee railroads, which were consolidated as the Jacksonville, Pensacola & Mobile. Those bonds are not due till 1891, and the plaintiff claims that a sale of the road under the defendants' liens, as ordered by the Circuit Court, will work injury to the rights of the State under its first mortgage. The defendants claim that the bonds held by the State were given in exchange for State bonds issued as subsidies, and that they are not a first lien on the property, their own bonds being in fact the first mortgage, and that the decree given in their favor by the Circuit Court is right.

The case has been in litigation for several years, and some intricate legal questions are involved. The road has been in the hands of several receivers appointed by various courts and was once sold under decree of the Circuit Court.

Manhattan Railway Company.

According to previous announcement the books for subscription to the stock were opened at the Corn Exchange Bank, New York, Oct. 29, by the Commissioners of Rapid Transit. The entire amount of \$2,000,000 of stock was subscribed in less than two hours, and the required 5 per cent. in cash paid in. A meeting will be held to organize the company Nov. 8. The entire amount of stock was subscribed by 26 persons, and it is evident that the controlling interest is held by the parties who own the Greenwich Street Elevated Railroad, nearly all of whom are well-known railroad men, such as John F. Tracy, Wm. L. Scott, M. Courtright and David Dows.

New York, Boston & Montreal.

A large number of men who have been employed on this bankrupt road have united and have filed their claims against the road, which, under the present law in New York, constitute an effectual lien on the property.

Panama.

It is said that the Panama Railroad Company purposes establishing a steamship line of its own between New York and San Francisco in opposition to the Pacific Mail Company. Twelve steamers, according to the reports, are to be bought, three for the line between New York and Aspinwall, five for that between Panama and San Francisco, and the other four for the lines from Panama to Central American and South American ports on the Pacific coast. The steamers are to be large screw steamers, and the line is to run in active opposition to the Pacific Mail.

RAILROAD LAW.

Liability of Common Carriers in Case of Fire.

The Supreme Court of Illinois has rendered an important decision regarding the liability of common carriers for goods lost by fire while in their care. In the case at issue, it seems the Merchants' Dispatch Company shipped goods by the way of Chicago to a firm in Mattoon, Ill., and while the goods were in warehouse at the former city awaiting reshipment they were destroyed by fire during the great conflagration. The Court decided as follows:

1. That the company is a common carrier, and therefore an insurer of all goods received by it for transportation against all accidents, except arising from the act of God or public enemies.

2. In the absence of a special contract (it seems), a common carrier must transport goods by the most usual, safe, direct and expeditious route. Failing in any of these particulars, unless prevented by inevitable accident, he must be held liable for loss.

3. The insurance continues to the end of the route, notwithstanding the goods may be stored in a warehouse by the way for reshipment.

It was claimed that the great Chicago fire was the act of God; but the Court did not decide this point, since the quickest and usual way of shipment to Mattoon was not through Chicago, but Indianapolis; so the matter turned on No. 3 *supra*.

Taxation of Land Grant Railroad Lands.

In the cases of the Union Pacific Railroad Company, appellant, against Edward C. McShane, Treasurer, etc., et al., and of Edward C. McShane, Treasurer, etc., et al., against the Union Pacific Railroad Company, an appeal from the Circuit Court for the district of Nebraska, Justice Miller has delivered the following opinion of the United States Supreme Court:

These are cross appeals from a decree of the Circuit Court for the district of Nebraska, in a suit in equity brought by the railroad company to enjoin the defendants, who were treasurers of counties in the State of Nebraska, from the collection of taxes assessed on the lands of the company. The bill alleges that in the year 1872, the assessors of the several counties where the lands are situated, which lands are described in lists filed as exhibits with the said bill, assessed said lands, and the boards of commissioners of said counties levied taxes for State, school and local municipal purposes upon them, and that the treasurers, who are made defendants, were about to proceed to the collection of those taxes by seizing and selling the locomotives, cars and rolling stock generally of the company, with other personal property. They say that the lands were not liable to any State taxation at the time of the assessment or levy, and they pray that these treasurers who are made defendants may be enjoined from further proceedings for their collection. The grounds on which this exemption is claimed may be divided into three distinct propositions, some of which are applicable to all the lands, and others to only part of them.

1. That by the third section of the act of 1862, under which the company was organized and by which the lands within the ten-mile limit were granted in aid of the construction of the road, it was provided that all such lands should not be sold within three years after the entire road shall have been completed shall be subject to settlement and pre-emption, like other lands, at a price not to exceed one dollar and twenty-five cents per acre, to be paid to the company, and it is alleged that these lands are liable to this pre-emption, which would be defeated by a sale of them for the taxes.

2. That by the amendatory act of 1864, which extends the grant to twenty miles on each side of the road, it is provided that before any of the land granted shall be conveyed to the company there shall first be paid into the Treasury of the United States the cost of surveying, selecting and conveying the same by said company, and that these costs not having been paid a sale for taxes would defeat the right of the United States to enforce this claim and recover their expenses out of the lands.

3. That under the joint resolution of April 10, 1869, authorizing the President to appoint a commission to inquire into the manner in which the road had been constructed, and, if the report was unfavorable, to take steps to secure its proper construction, the Secretary had refused to issue patents for these lands, withholding the title as security for the performance of what was required in that respect.

By the decision of the court on these points the decision in the railway company against Prescott, 16 Wall. 603, is modified and overruled so far as it asserts the contingent right of pre-emption in lands granted to the Pacific Railroad Company to constitute an exemption of those lands from State taxation, but affirmed so far as it holds that lands on which the cost of survey has not been paid, and for which the United States have not issued a patent to the company, are exempt from State taxation. But where the government has issued the patent the lands are taxable, whether payment of those costs has been made to the United States or not. The decision of the Circuit Court is reversed.

ANNUAL REPORTS.

New York, Providence & Boston.

During the year ending Aug. 31, 1875, this company worked a line from Providence R. I., southwest to Groton, Conn., 62½ miles, which line it owns, and it also worked under agreement the Westerly Granite Railroad, 1½ miles, and the Wickford road 3½ miles, making 67½ miles in all.

The property is represented as follows:

Stock (\$40,000 per mile).....\$2,500,000

Bonds (\$20,208 per mile).....1,268,000

Total (\$60,208 per mile).....\$3,768,000

This also represents an investment of \$425,000 in steamboat stock.

The earnings for the year ending Aug. 31 were as follows:

	1874-75.	1873-74.	Inc. or Dec.	P. c.
Passengers.....	\$462,171.09	\$457,936.24	Inc. \$4,234.85	0.9
Freight.....	350,940.26	369,168.92	Dec. 18,228.66	4.9
Other sources, including steamboat dividends.....	155,059.66	120,254.70	Inc. 34,804.96	28.9
Total.....	\$968,172.01	\$947,359.86	Inc. \$20,812.15	2.2
Working expenses.....	559,929.91	563,723.28	Dec. 3,793.37	0.7
Net earnings.....	\$408,242.10	\$383,636.58	Inc. \$24,605.52	6.5
Gross earnings per mile.....	\$14,348	\$14,035	Inc. \$308	2.2
Net earnings per mile.....	6,082	5,683	Inc. 399	6.5
Per cent. of expenses.....	57.80	59.50	Dec. 1.70	2.9

Of the passenger receipts 50.94 per cent., and of the freight receipts 60.49 per cent. were from through business. The report says: "While the receipts for the present year, from all sources, are nearly \$21,000 in excess of the previous year, the actual earnings, independent of dividends from the Steamboat Company, interest account, and amount received from Fall River Line, are \$20,000 less, viz.: for 1874, \$850,000; 1875, \$830,000. On the other hand, notwithstanding there has been charged to 'Repairs of Road' \$35,000 more than last year, the running expenses have been decreased. So that the net earnings, as compared with last year, discarding in both cases all revenue from outside sources, are but \$16,000 less—a result much more favorable than could fairly have been predicted. The net earnings, from all sources, are nearly \$25,000 in excess of last year."

A summary of the income account is as follows:

Balance from previous year.....	\$239,689.03
Net receipts.....	408,242.10
Bonds sold on account of construction.....	10,000.00
Stonington Steamboat Company stock sold.....	750.00
Loan from Providence & Stonington Steamboat Co.....	65,000.00
Bills payable.....	175,000.00
Total.....	\$898,680.13

Dividends, 10 per cent.....	\$239,689.03
Interest on bonds.....	84,800.00
Richmond Switch accident.....	882.14
Construction account.....	127,733.19
Stock Providence & Stonington Steamboat Co.....	287,000.00
Loan on 2,281 shares P. & N. Y. S. S. Co.....	91,240.00
Total.....	\$841,655.33

Balance to next year.....\$57,924.80

The work done was as follows:

	1874-75.	1873-74.	Inc. or Dec.	P. c.
Train mileage.....	809,186	486,430	Inc. 322,756	4.7
Through passengers.....	187,907	166,374	Dec. 21,533	5.1
Local.....	430,010	371,644	Inc. 58,366	15.7
Commuters.....	104,294	99,742	Inc. 4,552	4.6

Total passengers.....692,211

Tons through freight.....181,870

" local.....84,533

Total.....246,403

During the year 1,016 tons Bessemer steel and 535 tons new iron rails have been laid, 3,186 rails repaired and relaid, and 34,000 new ties put in. The difference in value of iron and steel rails—say \$90 per ton—was charged to construction account. The road is in excellent condition. A piece of property adjoining the steamboat wharf in Stonington has been bought, giving much needed room there, and a new track has been laid from the wharf to the main line to New London, thus avoiding the necessity of backing up New London trains from the wharf to the Junction, half a mile, and also avoiding the passage through the village.

One passenger and one switching engine have been purchased, and one passenger and 11 flat cars built in the company's shops. The car house in Groton has been enlarged and a coal trestle built there.

Six persons were killed on the road during the year, two of them employees, one killed by a passing train, the other by an overhead bridge; two passengers fell from a train, a boy was killed by a passing train and a man while walking on the track.

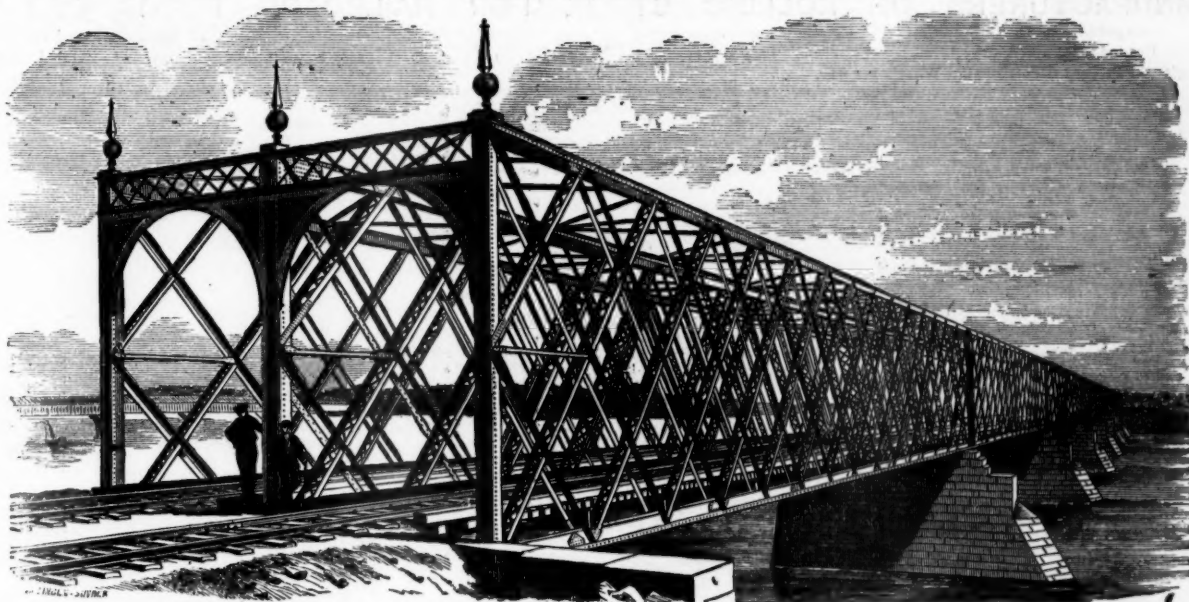
The report says: "The connection of the Warwick Railroad with your road, at Auburn Station, was completed early in July, and trains immediately commenced running. A large number of passengers have been transported to and from that road since that time; but there is no data at hand showing the result of the business. The connection will no doubt ultimately prove valuable."

"On the 1st of April last, the Stonington Steamboat Company, in which this company had a controlling interest, was consolidated with the Providence & New York Steamship Company, under the name of the 'Providence & Stonington Steamship Company,' with a capital of \$1,400,000; and under authority granted by the legislatures of Rhode Island and Connecticut

Leighton Bridge & Iron Works,

ROCHESTER, N. Y.

Wrought-Iron Rivetted Lattice Railroad and Highway Bridges.



WROUGHT-IRON WATER PIPE AND GENERAL RIVETTED WORK.
ORDERS SOLICITED FROM CIVIL ENGINEERS AND CONTRACTORS.
[Accompanying engraving represents the Springfield Bridge, built by the Leighton Bridge & Iron Works.]

C. A. HOTCHKISS.

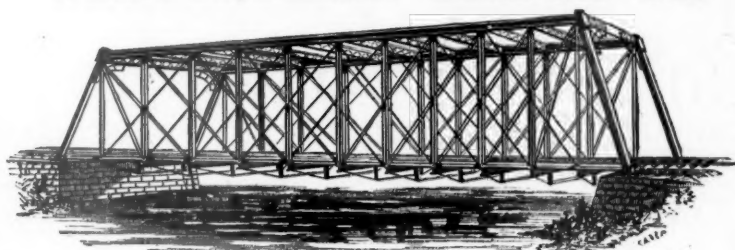
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JOB ABBOTT, } Engineers.
H. G. MORSE, }

Manufacturers and Builders of all Wrought-Iron Railway and Highway Truss, Arch and Swing Bridges, Plate and Lattice Girders, Iron Roofs, Turn-Tables, Iron Piers and Trestles. Have over TWENTY-FOUR MILES of their IRON BRIDGES now in use in twenty-four different States and Canada. ILLUSTRATED ALBUM and estimates sent on application.

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THE ONLY UPRIGHT STEAM RADIATOR
MADE WHICH HAS A POSITIVE CIRCULATION
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A substitute for lead and galvanized iron tubes for the conveyance of water.

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Manufactures as Specialties POWER LOOMS, REELING, SPOOLING, WINDING,
BEAMING, DYING AND SIZING MACHINES,

PATENT SELF-ACTING WOOL SCOURING MACHINES,

PATENT BOBBIN WINDING MACHINES, Winds direct from bank to shuttle bobbin.

Plans taken and Factories fitted out complete with Shafting and Gearing.

SHAPING FURNISHED with ADJUSTABLE SELF-OILING HANGERS, 8, 10, 12, 15 and 18 inch DR
Pulleys, Couplings, Self-Oiling Hangers and Pillow Blocks always on hand.

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PATENT FRICTION PULLEYS.

cut, the interest of this corporation in the new company has been increased to \$800,000, by which it retains control of both the Stonington and Providence steamboat lines. It is believed that this investment will in itself prove a large and constantly increasing source of revenue, and, what is of equal importance, will prevent the possibility of a ruinous competition by a first-class line of steamers running direct to Providence, in which this company would have no interest, and over which it could have no control.

Cincinnati, Sandusky & Cleveland.

This company owns a line from Sandusky, O., south by west to Dayton, 155 miles, of which 25 miles, from Springfield to Dayton, are leased and worked by the Cleveland, Columbus, Cincinnati & Indianapolis Company as part of its Cincinnati & Springfield line. The company also owns a branch from Carey, O., to Findlay, 15½ miles, and it leases the Columbus, Springfield & Cincinnati road, from Springfield east to Columbus, 45 miles. The total mileage owned is 170½; worked, 190½ miles.

The equipment consists of 32 engines; 3 sleeping, 2 parlor, 17 passenger, 4 smoking, 1 combination, 2 mail, 10 baggage and 2 drivers' cars; 33 box, 66 stock, 164 flat and 337 coal cars; 45 hand, 10 push and 1 "three-wheeled" hand car. During the year three engines and two parlor cars were purchased, 10 flat cars built; 14 flats were broken up and one coal car destroyed.

The property was represented as follows at the close of the fiscal year, June 30, 1875:

Preferred stock and scrip (\$187.45 scrip).....	\$429,037 45
Common stock.....	4,006,750 00

Total stock (\$26,010 per mile owned).....	\$4,434,787 45
Funded debt (\$14,197 per mile).....	1,490,612 40

Total (\$40,297 per mile).....	\$5,925,399 85
--------------------------------	----------------

There is no change from last year. The outstanding bills payable amount to \$133,586.41, loans and discounts to \$136,187.43. The company holds 5,163 shares of its own stock, and 10,115 shares Columbus, Springfield & Cincinnati stock. There is \$211,474.18 in a sinking fund.

The work done was as follows:

	1874-5.	1873-4.	Inc. or Dec.	P. c.
Passenger train mileage.	332,271	318,591	Inc..	13,680 4.3
Freight " "	481,074	399,274	Inc..	81,800 20.5
Other " "	34,671	61,804	Dec..	27,133 43.9
Total " "	848,016	779,669	Inc..	68,347 8.8
Passengers carried.....	304,992	255,467	Inc..	49,525 19.4
Passenger mileage.....	7,721,502	6,613,488	Inc..	1,108,014 16.8
Tons through freight.....	187,744	159,536	Inc..	28,208 17.7
Tons way freight.....	204,620	161,810	Inc..	42,710 26.4
Total.....	392,264	321,346	Inc..	70,918 22.1

The average cost of locomotive service was 19.389 cents per mile against 20.732 cents the previous year. The mileage of freight cars over the road was 4,732,512 (a little less than 10 per freight-train mile), of which 2,107,149 miles were made by the company's cars and 2,625,363 miles by foreign cars.

The earnings and expenses for the year were as follows:

	1874-5.	1873-4.	Inc. or Dec.	P. c.
From freight.....	\$501,744 40	\$440,811 33	Inc..	\$60,933 07 13.8
Passengers.....	223,326 76	213,688 41	Inc..	9,638 35 4.5
Other sources.....	62,600 29	76,637 47	Dec..	14,037 18 18.3
Total earnings.....	\$787,671 45	\$731,137 21	Inc..	\$56,534 24 7.7
Working expenses.....	561,775 76	533,179 91	Inc..	28,595 85 5.4
Net earnings.....	\$225,895 69	\$197,957 30	Inc..	\$27,938 39 14.1
Rental from C. C. C. & I. Co.....	70,024 29	69,214 23	Inc..	810 06 1.2
Total net.....	\$295,919 98	\$267,171 53	Inc..	\$28,748 45 10.8
Gr's earn. per mile.....	\$4,134 76	\$3,837 99	Inc..	\$296 77 7.7
Net " ".....	1,185 80	1,039 15	Inc..	146 65 14.1
Per cent. of exp's.....	71 32	72 92	Dec..	1 60 2.2

The very low rates which prevailed through the year account for the smallness of the increase in earnings as compared with that in traffic. The average rate per passenger per mile was 2.89 cents, against 3.23 cents the previous year.

The income account is as follows:

Net earnings.....	\$295,919 98
Interest on bonds.....	\$158,961
Dividends on preferred stock.....	25,731
Sinking fund.....	10,000
Rental Col., Springfield & Cin. R. R.....	80,000
	274,692 00

Surplus for the year..... \$21,227 98

During the year 2.2 miles steel and 7.5 miles of iron rails were put in the track and 57,041 new ties were used. The company's shop repaired 1,821 old rails. Materials for eight miles of fence were furnished, most of which was put up by farmers on the line. The round-house at Springfield, destroyed by fire in March, was rebuilt, and a new passenger house begun at London. Another is much needed at Tiffin. The bridge at Georgesville has been covered and decked, and all the others on the road are to be treated in the same way. Four new bridges with stone abutments have been built and 24 culverts renewed.

The burning of the round-house at Springfield, damaging five engines, and the explosion of a boiler near Sandusky have been the only casualties of the year.

The Architecture of Railroad Depots.

The following appeared as a letter in a late number of the Boston *Advertiser* over the initials "C. H.," which are those of a brilliant young engineer of that city. It will be found well worth reading out of Boston:

Without criticism there can be no progress. Of course the best and most effective form of criticism is that spirit of being dissatisfied with one's own labors, that induces the worker and designer constantly to improve on his latest effort, but outside criticism is, for all that, not without its uses; not without its possible uses, at all events. Now we have no criticisms, properly speaking, on hardly anything but music and the drama in our daily press. That "mighty engine" has been content to indulge, up to the present time, in one stereotype form of laudation and enshrining of names on architectural and similar matters; as, for example, that the well-known A. was the architect (no alliteration meant), the skilful B. did the mason-work, the plumbing was done by that master in the curling of pipe, Mr. C., and so on. "Seeing this 'head,'" then, I proceed, with your permission, to "hit it." And I do so with all diffidence and distrust of my own abilities. If the criticisms about to be made are ill-founded, they will not, in the end, do harm; if well-founded and correct, they may possibly serve to prevent a repetition of mistakes, and thus achieve all they were intended to do. We commence, then, with the general subject matter: Railway depots. What constitutes good architecture in railway depots? What is "good architecture?" Your correspondent answers that the office of the good architect is to give pleasure by means of his work. Now-a-days the architect that will give his clients the greatest amount of pleasure

at the least cost is probably the best artist. He can give pleasure in two ways—by making his building "elegantly" convenient for the uses it is to subserve, and by a beautiful moulding of form and application of color, inside and outside; both these pleasures may be said to be derived from a contemplation of "the eternal fitness of things." When a person enters his own or another's house, or any other edifice, public or private, and finds this entry just right, that door and this one in just the right place, stairs convenient, closet room where it is wanted, and so on, to the almost endless list of these little pleasurable emotions,—why, the sum total is great pleasure; each step has been an agreeable one to the emotions, and the builder is set down as a good architect. It is the same with merely looking at correct forms and colors; it is a play upon our emotions that causes an agreeable excitement for the moment,—a "joy forever" if the architecture is faultless. Naturally there are differences of opinion on all these points, and what will give great pleasure to one does not necessarily to all, and what gives pleasure to the civilized man will not necessarily enrapture the savage. But, viewed as a great whole, there certainly is such a thing as good and another as bad architecture, and a majority vote, if such a one could be had, would at any time actually settle disputed points. The majority vote would not perhaps go the same way at all times. The civilized portion of the human family is progressive in this as in all other matters, but this alters nothing. We are nearing, and nearing,—perfection. Then we shall all be agreed on all points. In the meantime, while some architects build as though inspired by that Spirit that tends to lead us toward the era of perfection, it certainly looks as though others built as though possessed of the devil. Let us, therefore, encourage the first, and endeavor to raise up the second class. The present writing shall be an effort in that direction, but whether rightly or wrongly put, and whether valid or mistaken, must remain for the decision of that surging majority known as the opinion of the public.

THE BOSTON & LOWELL.

I commence, as in chronology bound, with the depot of the Boston & Lowell Railroad, on Causeway street, in Boston. We approach the edifice, and finding no front door, (the story of the man that had his front door on the back of his house at once rushes in upon us)—finding no front door, I say, make content to edge in alongside of some hacks going in our direction, and into an atmosphere redolent with the odor of a livery stable. Disappointment No. 1, and a consequent depression of spirits, quite the reverse of that agreeable sensation up and down the spinal column that is sometimes incited by good music, and which it is the duty of the good architect, dispenser of frozen music, to incite in his subjects. A sign tells us that a certain door is the "Entrance to Waiting-Room." We enter, and are in a little, low, say nine feet high, kind of an entrance. Evidently a mistake; this is the way down cellar, not into the depot; whence disappointment No. 2, with attendant discomforts. Therefore, "Turn again, Whittington." But the sign still says, "Entrance to Waiting-Room;" we make bold therefore and push open the door leading to the supposed under-stair steps down cellar. Ah! This is the way; up these stairs. But no; the signs say, "R. R. Offices." Where is the "Entrance to Waiting-Room?" We finally spy out the word "IN," over some other doors, and now, worked up to more or less desperation, venture to open these. Presto, and we are in a large, high, square hall. A ticket office is tolerably prominent in the center of one of its sides, but as for anything else that will guide the weary and perhaps hurrying traveler, there is at first sight absolutely nothing. On the contrary, the whole design of the interior, down to the very tiling of the floor, is calculated only to bewilder and confuse. By dint of impertunate questioning it is to be hoped that the traveler gets his ticket and catches his train, or finally finds the various rooms he may be in search of; but surely all this is not good architecture. An entrance that does not look like an entrance, a hall for hurrying travelers that tends to spin them around in their perplexity like a top; such want of plan cannot be too severely condemned and held up as a warning for future builders. Especially let us have no more such central halls. As an elephant's foot, into which that sagacious quadruped is enticed by trained companions, and then left there unable to find his way out again, or as a pattern for the latest style of fly trap, such halls would be a success; for railroad depots they are out of place, and failures. The season-ticket passenger naturally gets used to this sort of depot very soon, but surely there are other passengers that take the "Great Northern Route," and it makes one shudder to think of the amount of trouble and confusion that is daily, weekly and annually imposed upon members of the human family by these violations of the first rules of correct building. It is no excuse to plead that all the doors mentioned above are left open during the summer time, affording unobstructed views. [By the way, why not make glass doors, now that the mischief has been done?] People travel in the winter time also, and some saw the Lowell depot for the first time in the winter, when all of its doors were both shut and opaque. So much for the arrangement in ground plan. It might be in place to say something about the comparative merits of the "head house" and "beside track" system of arranging depots, but this will be more appropriate in connection with some other depot, where the "head house" system has been carried out in better shape. We pass then to architectural effect to the eye—to form and color. The outside can not be said to produce any marked impression. A central body, a short and a long tower, windows plumb over each other, in many rows, like rows of "this pig went to market," etc., etc., up to the little round "this little pig said wee, wee, wee," etc., away up on the "French roof." The two towers have nothing particular to stand on at the bottom, which looks bad architecturally, and, as is well known, necessitated much hidden construction in iron to hold the towers up at all. The effect is that of a large building, but it is not such a one as gives pleasure. Nor can much better be said of the inside decoration. There is too much sameness in such a mass of wood finish, the several parts of which are repeated *ad nauseam*. To use the simile of "frozen music," the artist seemed to have been playing only one note, or at best an *Æolian* harp, before his music became frozen. Passing from the head to the train house, the change is rather for the better. The side-walls look somewhat bare, but the further end, with its rose-windows, is cheerful in appearance, and the high and light-shedding roof is agreeable. A passenger can comfortably read his newspaper when sitting in a car that is inside this car-house—which is a good test of the amount of light thrown in through the roof. Some remarks relative to that form of roof in which the rafters start from the ground will be more in place in connection with another depot where this species of roof has not been as well carried out.

THE BOSTON & PROVIDENCE.

I pass to the consideration of the Boston & Providence depot, on Columbus avenue. It will strike the beholder at first sight that the architects had a very peculiarly-shaped piece of land on which to build their depot in this case, and yet he will find that they have admirably succeeded in effecting their object. In point of fact this task has been so nearly done that it will seem as though the same architects would find difficulty to build a well-arranged depot on a differently-shaped lot of land, but which is evidently an absurdity. No difficulty here about knowing where to enter, and where to go after you have entered. The entrances look like entrances, and such a thing as a sign, "This is an entrance to the waiting-rooms," would look absurd and useless near the entrance-doors. The arrangement in ground plan is excellent, and, for a "head-house" plan, faultless. Similar praise may be awarded to the architectural finish, outside and inside. The

effect of the outside is decidedly cheerful, and so is that of the inside finish. It is, moreover, in perfect keeping and in harmony throughout. As Gothic is the style that has been adopted, we have Gothic forms and colors adhered to throughout, from the general shapes of the arches outside down to the little fountains in the waiting-rooms, or the pattern of the wall-painting. So far, the "head-house" of this depot has been a joy to its patrons, and bids fair to be a thing of beauty so long as it shall last. A defect about the "head house" is the want of more accommodation for passengers arriving by hacks, which is difficult to remedy very much, owing to the way the head-house is wedged in between two public streets. A very critical personage might also find fault with the finish of the center post in the open roof frame over the central hall. The office of such "post" is that of a tie, not of a strut. It supports nothing, but, if exercised at all, has tension upon it, since it holds up the horizontal tie-beam; it should, therefore, bespeak the uses it subserves, and look like a tie, and not like a column. We strike upon a defect of the site of the depot, which the ingenuity of the architects could not overcome, upon entering the train-house from the head-house, in the shape of the steps that bring us to the level of the rails. But if these steps were unavoidable, why not make them as easy as possible? As now constructed, the proportions of rise to tread are such that the temptation is to go down two and three steps at a time, if not revolve around a horizontal hinge until the nose of the unwary passenger strikes the lower platform. What paint can do has been done to cheer up the appearance of the inside of the "train-house," but it can never be made a very cheerful-looking hall. It is well known that in the original designs this part of the depot was very much slighted by the architects, and passed under the derisive name of the "car-shed." In point of fact, however, it is exactly this part of a depot that is most likely to give character to the whole structure, and with reason, as will presently appear. Almost no one that arrives at a depot cares to go through the "head-house"; this disposes of one-half the patrons of the road. Of the other half, probably nine-tenths are season-ticket passengers, and a large portion of these do not use the head-house in leaving. Taken altogether, even in a depot situated as is the Providence, there are, therefore, not over one-fourth of its patrons who daily use the head-house; hence take the more notice of the "train-house." The faults of the Providence train-house are want of light and a depressing, tent-like appearance of the roof, caused by the rafters springing from the ground and bending inwards too soon after leaving the ground. The want of light may be, and some day probably will be, to some extent remedied by putting in more skylights. The side-lights are of little use to the inner tracks, as a train of cars will always shut off the light of the train in the adjoining inner track. The low, tent form is, however, a chronic defect that will unfortunately remain. It is really to be hoped that we shall stop and build no more of these huge, lobster-pot, hen-coop shaped roofs for railway depots, against which there has lately been such a reaction in England, after that country had been pretty thickly strewn with them. A roof, to look like a roof, must start from the top of a perpendicular wall; to start from the ground with a roof is characteristic of tent structures, and can be made endurable only by a perpendicular leg or footing to each rafter and a very high roof. But there is no need of this kind of roof at all. They present no particular advantages from any point of view, æthetical, economical or constructive, though as regards the last two points I am aware that there is an impression, but not founded on any particular examination of the subject, the other way, perhaps, among some builders. A beautiful example of an arched iron roof of 120 feet span, that has been up these half-dozen years, starts from the top of a brick wall 22 feet high, yet requires buttresses in the wall at each main rafter only about 5 feet thick at the ground level. In beauty of inside effect the two forms are not to be compared, the latter is so much the superior of the former, and in cost, I doubt whether one is any cheaper than the other. Let us, then, imitate the successes of other countries, not their failures, and among the latter must be classed the huge half-barrel railway halls of England, now beginning to be imitated in this country. Of the outside appearance of the Providence train-house there is no need of saying much, except that it is well treated and well joined to and in keeping with the rest of the building. In our next, then, we may pass on to the youngest of our trio, the Union Depot at Worcester. C. H.

Proud of his Uniform.

Some time ago there was an order issued from the General Superintendent's office of the Chicago & Alton Railroad requiring agents and other employees connected with the trains upon the road to wear badges when upon duty, designating the position they have, and that the traveling public might, without mistake, know who to apply to for any information or protection required. This order in due time was sent to the different agents along the line of the road, together with the badge they were to wear. Among the agents that received this order and badge was Mr. J. R. Madison, of Washington, upon the Western Division of the road, who immediately carried out the order. He was very much pleased with the badge, as it was quite ornamental, and showed to everyone the position held. He thought it would save many questions as to the rank he held upon the staff of this large corporation, so he wore it continually—not only around the town, but to church and other places of amusement—and when he took off his hat he would place it in a very conspicuous position, that it might draw attention.

The young men of Washington began to feel quite taken aback by the attention given to the young railroad agent, therefore they set their heads together to get a rig on him, which they saw fully carried out yesterday to the delight of all the citizens of the above named city. They purchased a very fine sword and belt down the road somewhere, and then wrote a letter purporting to come from the General Superintendent, informing all agents that in future they would be required to wear the sword and belt, as it would add greatly to the appearance of the leading official at the station, as well as give him something with which to defend the patrons of the road from the confidence men and pickpockets that are always to be found at a railroad station. This was taken north and given to the trainmen, who, on the arrival at the train at Washington, delivered it to Mr. Madison, who promptly put it on; and yesterday he was seen promenading the streets in the full dress, strutting about as proud as a major general. The novelty of the thing created considerable laughter among citizens, who began to ask him about the cause of all this display, whereupon he showed them the instructions. Some one told him that the whole thing was a joke put upon him, and that he had better see if the thing was general throughout the line, so he repaired to the office and by telegraph asked the agents at Lacon and Wenona if they had got their swords, etc., to which they replied that they had; that they were the laughing-stock of everyone, but that they did not mind it, as they would soon become used to it. Getting the assurance that there was no joke about it, he resumed his business without any further trouble.

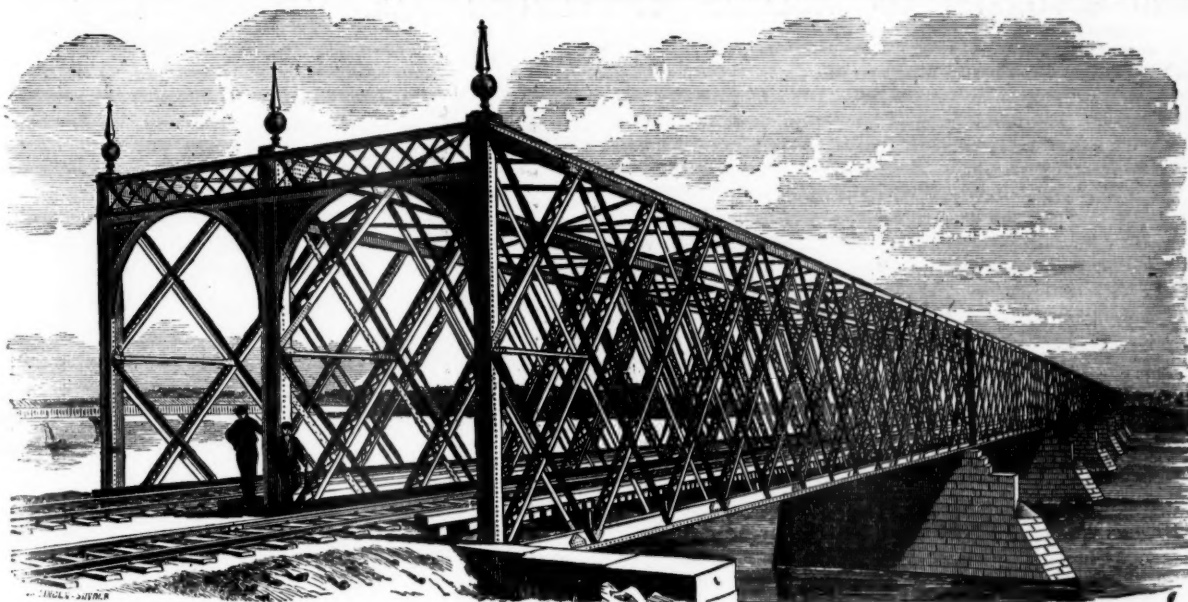
Before night the joke had gone the length of the wires on every division of the road, and a ripple of laughter was conveyed from Chicago, Louisiana, and Washington to Chicago, and probably by this time to every telegraph line in the Union. If Mr. Madison ever hears the end of it he may bless his lucky stars.—*Blomington Pantagraph.*

* NOTE.—The term "depot" will probably meet with objection in some quarters, since a "passenger station" is the latest affectation. But are there not a's enough in the English language—a tongue that has been likened unto that of the hissing goose—without piling them up as in "passenger station?" and again—what to me is conclusive—where there is one person inquiring the way to the "Boston & Providence passenger station," I will produce 99 who want to go to the "Providence depot." And remember, deepo, not daypo.

Leighton Bridge & Iron Works,

ROCHESTER, N. Y.

Wrought-Iron Rivetted Lattice Railroad and Highway Bridges.



WROUGHT-IRON WATER PIPE AND GENERAL RIVETTED WORK.
ORDERS SOLICITED FROM CIVIL ENGINEERS AND CONTRACTORS.
[Accompanying engraving represents the Springfield Bridge, built by the Leighton Bridge & Iron Works.]

C. A. HOTCHKISS.

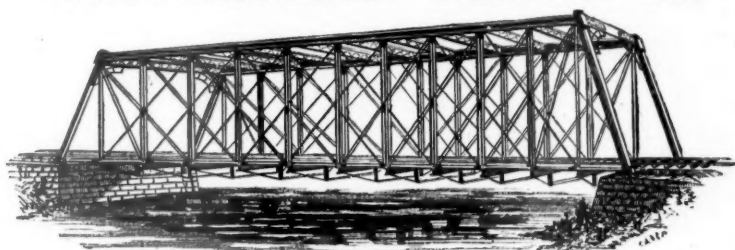
PHILIP GAYLORD.

HOTCHKISS & GAYLORD,
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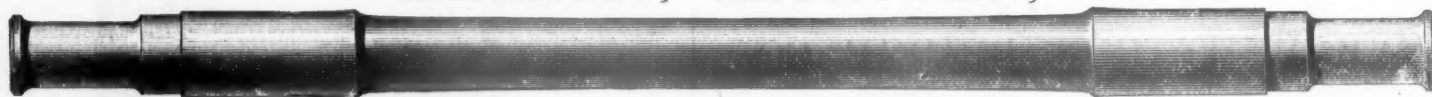
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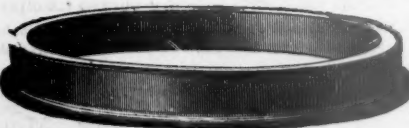
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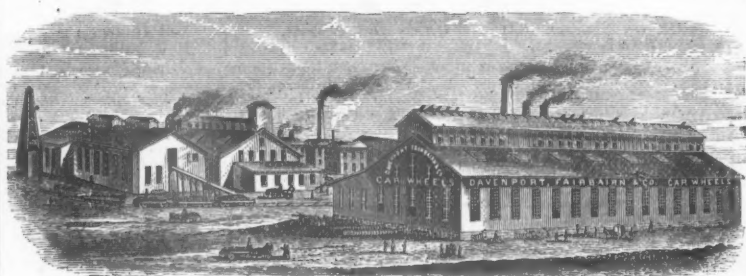


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